A CULTURAL RESOURCES INVENTORY OF 567.89 ACRES FOR WATER INFRASTRUCTURE DEVELOPMENT AT RED GAP RANCH IN COCONINO COUNTY, ARIZONA

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Cultural Resources Report 2014-09

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Project No. 1822.01
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ABSTRACT

REPORT TITLE: A Cultural Resources Inventory of 567.89 Acres for Water Infrastructure Development at Red Gap Ranch in Coconino County, Arizona

REPORT DATE: February 11, 2014

AGENCIES: This report will be reviewed by the City of Flagstaff (City), the Arizona State Land Department, and the Bureau of Reclamation. The City manages approximately 8,500 acres of lands within the broader 25,000-acre area known as the Red Gap Ranch. The remaining lands within the Red Gap Ranch are a checkerboard of lands managed by the Arizona State Land Department and private entities.

PROJECT SPONSOR: Southwest Ground-water Consultants, Inc.

PERMIT NUMBER: Arizona Antiquities Act Blanket Permit No. 2013-015bl

WESTLAND PROJECT NUMBER: 1822.01

LAND STATUS/JURISDICTION: State Trust and City of Flagstaff

LOCATION:
- Township 19 North, Range 14 East, Sections 4 and 5;
- Township 20 North, Range 12½ East, Sections 12 and 13;
- Township 20 North, Range 13 East, Sections 13, 15 through 17, 19 through 30, and 34 through 36;
- Township 20 North, Range 14 East, Sections 19 and 30 through 32.

The survey area is depicted on the United States Geological Survey 7.5’ quadrangle maps Canyon Diablo (1968, revised 1983), Meteor Crater (1968, revised 1983), Tucker Mesa (1968), Tucker Mesa NW (1968), and Tucker Mesa SW (1968).

ACRES SURVEYED: 567.89

FIELD SURVEY DATES: September 17 through October 29, 2013

CULTURAL RESOURCES DISCOVERED:
- 38 archaeological sites (6 previously recorded and 32 newly identified)
- 161 isolated occurrences

REGISTER-LISTED PROPERTIES: 1
- Route 66/AZ J:15:156(ASM) is listed in the National Register of Historic Places.

REGISTER-ELIGIBLE PROPERTIES: 11

<table>
<thead>
<tr>
<th>Sites Recommended Eligible by WestLand (11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ J:13:15(ASM)</td>
</tr>
<tr>
<td>AZ J:13:17(ASM)</td>
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<tr>
<td>AZ J:13:34(ASM)</td>
</tr>
<tr>
<td>AZ J:13:36(ASM)</td>
</tr>
<tr>
<td>AZ J:13:43(ASM)</td>
</tr>
<tr>
<td>AZ J:13:46 (ASM)</td>
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<tr>
<td>AZ J:13:47(ASM)</td>
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<tr>
<td>AZ J:13:50(ASM)</td>
</tr>
<tr>
<td>AZ J:13:51(ASM)</td>
</tr>
<tr>
<td>AZ J:13:56(ASM)</td>
</tr>
<tr>
<td>AZ J:13:63(ASM)</td>
</tr>
</tbody>
</table>
REGISTER-INELIGIBLE RESOURCES:

- 15
- 161 isolated occurrences are recommended ineligible.

<table>
<thead>
<tr>
<th>Determined Not Eligible (1)</th>
<th>Recommended Not Eligible by WestLand (14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ J:13:20(ASM)</td>
<td>AZ I:16:61(ASM)</td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
<td>AZ J:13:33(ASM)</td>
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<tr>
<td></td>
<td>AZ J:13:35(ASM)</td>
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<tr>
<td></td>
<td>AZ J:13:37(ASM)</td>
</tr>
<tr>
<td></td>
<td>AZ J:13:38(ASM)</td>
</tr>
<tr>
<td></td>
<td>AZ J:13:39(ASM)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties of Undetermined Register Eligibility: 11</th>
</tr>
</thead>
</table>

The National Register of Historic Places eligibility of 11 sites could not be determined based on the information available during site recording.

<table>
<thead>
<tr>
<th>Register Eligibility Undetermined (11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ J:13:16(ASM)</td>
</tr>
<tr>
<td>AZ J:13:41(ASM)</td>
</tr>
<tr>
<td>AZ J:13:42(ASM)</td>
</tr>
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<td>AZ J:13:44(ASM)</td>
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<td>AZ J:13:48(ASM)</td>
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<tr>
<td>AZ J:13:49(ASM)</td>
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<tr>
<td>AZ J:13:52(ASM)</td>
</tr>
<tr>
<td>AZ J:13:53(ASM)</td>
</tr>
<tr>
<td>AZ J:13:55(ASM)</td>
</tr>
<tr>
<td>AZ J:13:60(ASM) (historical component is non-contributing)</td>
</tr>
<tr>
<td>AZ J:13:61(ASM)</td>
</tr>
</tbody>
</table>

PROJECT DESCRIPTION: In order to provide future municipal water supplies, the City proposes to construct pumping infrastructure and associated features at Red Gap Ranch (the project), which are currently proposed to include an onsite water treatment facility, a pumping facility, secondary pipelines from the wells to the treatment and pumping facilities, and onsite power distribution. Groundwater production wells and unpaved roads currently exist on the property, but will be maintained or upgraded as part of the project. The construction of the proposed project currently utilizes the provision of funds from the Bureau of Reclamation (BOR) and may potentially require federal permits for its completion. As such, the BOR has determined that the project, as well as the proposed transmission pipeline to bring water from the project area to the City, is a major federal action requiring the disclosure of effects under the National Environmental Policy Act (NEPA). NEPA regulation requires the consideration of the effects of an action on historic properties in keeping with Section 106 of the National Historic Preservation Act. This inventory has been prepared to document the potential effects to the cultural resources in the project area as a result of the construction of the project and to support the preparation of an anticipated Environmental Impact Statement for all actions related to the development of the pumping infrastructure and pipeline.

ASSESSMENT OF EFFECT AND TREATMENT RECOMMENDATION: WestLand Resources, Inc. (WestLand), conducted a comprehensive inventory of 567.89 acres of the Red Gap Ranch property in support of the anticipated NEPA evaluation of the development of the project by the City. Although Class I research for previous sites and surveys included the entire Red Gap Ranch property, the pedestrian survey examined those areas of proposed ground-disturbing impacts for the development of the project. The locations of the existing wells and unpaved roads were also surveyed should these facilities need to be upgraded or maintained in conjunction with the project. WestLand recommends that 23 sites listed in the NRHP (n=1), recommended eligible for inclusion in the NRHP (n=11), or of undetermined eligibility (11) be avoided
by all ground-disturbing project activities. To avoid indirect or inadvertent impacts, the location of each site should be clearly indicated on all project construction plans and the boundaries of the sites should be marked on the ground for avoidance if ground-disturbing activities are to take place within 50 feet of the site boundaries. If the sites cannot be avoided by design, WestLand recommends that the affected sites be subjected to phased archaeological treatment under the guidance of a BOR- and State Historic Preservation Office-approved Historic Properties Treatment Plan and/or monitoring plan to mitigate the potential for inadvertent direct or indirect impacts. Mitigation of these impacts may involve additional survey and site documentation, in-field analysis, archival research, test and feature excavations, the establishment of temporary or long-term barricades, and/or construction monitoring.
INTRODUCTION AND PROJECT BACKGROUND

In order to provide future municipal water supplies, the City of Flagstaff (the City) proposes to construct pumping infrastructure and associated features at Red Gap Ranch (the project), which are currently proposed to include an onsite water treatment facility, a pumping facility, secondary pipelines from the wells to the treatment and pumping facilities, and onsite power distribution. Groundwater production wells and unpaved roads currently exist on the property, but will be maintained or upgraded as part of the project. The construction of the proposed project currently utilizes the provision of funds from the Bureau of Reclamation (BOR) and may potentially require federal permits for its completion. As such, the BOR has determined that the project, as well as the proposed transmission pipeline to bring water from the project area to the City, is a major federal action requiring the disclosure of effects under the National Environmental Policy Act (NEPA). NEPA regulation requires the consideration of the effects of an action on historic properties in keeping with Section 106 of the National Historic Preservation Act. This inventory has been prepared to document the potential effects to the cultural resources in the survey area as a result of the construction of the project and to support the preparation of an anticipated Environmental Impact Statement for all actions related to the development of the pumping infrastructure and pipeline.

The survey area is located in Red Gap Ranch in Coconino County, Arizona, north of Meteor Crater (Figures 1 and 2; Photo 1).

Photo 1. Survey area overview
Approximate Scale 1 Inch = 10 Miles

Legend

Survey Area

WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
1780 S. Woodlands Village Blvd., Suite 125
Flagstaff, Arizona 86004 - P.O. Box 221224

T19N, R14E, Portion of Sections 4 & 5,
T20N, R12½E, Portion of Sections 12 & 13,
T20N, R13E, Portion of Sections 13, 15-17, 19-30 & 34-36,
T20N, R14E, Portion of Sections 19 & 30-32,
Coconino County, Arizona
Canyon Diablo, Meteor Crater, Tucker Mesa, Tucker Mesa NW,
& Tucker Mesa SW USGS 7.5' Quadrangles
Projection: UTM NAD83, Zone 12
Image Source: ESRI Online - USA Topo Map & Street Map

Figure 1. Vicinity map
Figure 2. Project location showing surface management

Legend

- Survey Area
- Surface Management (BLM 2012)
- Private Land (No Color)
- State Trust Land

Survey Area

Surface Management (BLM 2012)

- T19N, R14E, Portion of Sections 4 & 5,
- T20N, R12½E, Portion of Sections 12 & 13,
- T20N, R13E, Portion of Sections 13, 15-17, 19-30 & 34-36,
- T20N, R14E, Portion of Sections 19 & 30-32,
- Coconino County, Arizona
- Canyon Diablo, Meteor Crater, Tucker Mesa, Tucker Mesa NW,
  & Tucker Mesa SW USGS 7.5' Quadrangles
- Projection: UTM NAD83, Zone 12
- Image Source: ESRI Online - USA Topo Map
The survey area is located in the townships and ranges listed below (Coconino County, Arizona; Gila and Salt River Baseline and Meridian):

- Township 19 North, Range 14 East, Sections 4 and 5;
- Township 20 North, Range 12½ East, Sections 12 and 13;
- Township 20 North, Range 13 East, Sections 13, 15 through 17, 19 through 30, and 34 through 36;
- Township 20 North, Range 14 East, Sections 19 and 30 through 32.


WestLand Resources, Inc. (WestLand), has prepared the following cultural resources report for the 567.89 acres of the Red Gap Ranch that may be impacted by the project. Prior to the field survey, a cultural resources background review (Class I) examined the entire Red Gap Ranch property plus a 1-mile (1.6-km) buffer, which included the southwestern edge of the Navajo Nation. The pedestrian inventory (Class III) examined only the areas of direct impact associated with the development of a potable water well field and support facilities. Research for the records search incorporated data collected from the AZSITE online database maintained by the Arizona State Museum (ASM), Museum of Northern Arizona (MNA) site files, records stored at Northern Arizona University (NAU), Navajo Nation Historic Preservation Department (NNHPD) files, historical General Land Office (GLO) maps, historical USGS topographic maps, and the Arizona Register of Historic Places (ARHP) and the National Register of Historic Places (NRHP).

The objective of the archaeological inventory was to identify any and all objects, sites, districts, buildings, and structures having significance in Arizona and American history that might be affected by the proposed undertaking. WestLand performed the archaeological survey and prepared this report in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and the implementing regulations (36 CFR 800); in accordance with ASM standards for an archaeological inventory as specified in the Arizona Board of Regents Rules, Chapter 8, Section 200, et seq.; and BOR standards. The report has been provided to the Arizona State Land Department, the City, and the BOR and is suitable for reference in future NEPA documentation in support of an Environmental Impact Statement.

Tom Klimas served as project manager, with archaeologist David E. Purcell serving as field director. Purcell was assisted in the field by field technicians Olivia Charest and Brian Kranzler. The fieldwork was conducted between September 17 and October 29, 2013. Thirty-eight archaeological sites were identified within the survey area. Six sites had been previously recorded; 32 were newly identified. No previously recorded sites are plotted by AZSITE within the present survey area that were not identified by WestLand at those locations; however, the six previously recorded sites incorporate nine previously recorded sites, including parts of two sites previously described as having been destroyed during the construction of Interstate 40 (I-40). Additionally, 161 isolated occurrences of cultural materials were identified and recorded.
ARCHAEOLOGICAL BACKGROUND

WestLand conducted a Class I review of archaeological records and historical maps and documents prior to the field inventory. This included a review of all projects and sites in the AZSITE database, in the Museum of Northern Arizona site files, in the records of the Navajo Nation Historic Preservation Department, and at the Department of Anthropology, Northern Arizona University, within the project area and in a 1.6-km (1-mile) buffer around the entire Red Gap Ranch property, which includes the smaller areas of impact included in the Class III survey. This review also encompassed the ARHP and the NRHP, and a review of historical GLO plat maps and historical USGS topographic maps for historical features. The records of MNA and NAU list no sites or projects on the five 7.5′ topographic quadrangles that encompass the Red Gap Ranch property survey area; however, ASM records identify one project conducted by MNA within the project area (I-40 Survey). One project (05-124) conducted by the Navajo Nation Archaeology Department (NNAD) was conducted on lands of the Navajo Nation within the buffer area.

PREVIOUS ARCHAEOLOGICAL PROJECTS IN THE PROJECT AREA

Archaeological records at the ASM list eight archaeological projects that wholly or partly overlap the project area and surrounding 1.6-km (1-mile) buffer. However, previously recorded sites within or adjacent to the present project area indicate that other projects have taken place that are not plotted in the AZSITE database. Two sites (AZ J:13:2 and AZ J:13:3[ASM]) were recorded in 1966 by E. Hemmings of the MNA during an inventory for I-40, a project that was not identified in the ASM or AZSITE records. The results of this project, which extended across North-Central Arizona from the New Mexico to California state lines, have never been published. Additionally, a recent inventory by Logan Simpson Design, Inc., of the Arizona Public Service NE-8 69-kV transmission line through Red Gap Ranch has not yet been incorporated into the AZSITE records (Whiting et al. 2011), although it has an ASM accession number (2009-0193). A total of eight projects have been previously conducted within the present project area and an additional two projects were previously conducted within the 1.6-km (1-mile) buffer (Table 1; Figure 3). Project 1978-28.ASM appears to be misplotted in the ASM/AZSITE database; the area depicted in Figure 3 appeared undisturbed, but a borrow pit of approximately the dimensions and configuration shown was observed directly to the south, bisecting Route 66.

PREVIOUSLY IDENTIFIED ARCHAEOLOGICAL SITES IN THE PROJECT AREA

Site records at the ASM identify 18 known archaeological sites within the project area and the 1.6-km (1-mile) buffer, although AZSITE only depicts the locations of 14 of these sites (Table 2; see Figure 3). Ten of these sites (AZ I:15:156, AZ J:13:2, AZ J:13:3, AZ J:13:15, AZ J:13:16, AZ J:13:17, AZ J:13:20, AZ J:13:24, AZ J:13:25, and AZ J:13:30[ASM]) are plotted in the current project area (see Table 2).
Table 1. Previous archaeological projects within 1.6 km (1 mile) of the project area

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Project Name</th>
<th>Completed</th>
<th>Reference</th>
<th>Institution</th>
</tr>
</thead>
</table>

Notes:
- The projects in the project area are numbered separately at the end of the table.
- NNAD 05-124 was undertaken on lands of the Navajo Nation and its location is not depicted.
### Table 2. Previously identified archaeological sites within 1.6 km (1 mile) of the project area

<table>
<thead>
<tr>
<th>ASM Site</th>
<th>Alternate Site</th>
<th>Cultural Affiliation</th>
<th>Date Recorded</th>
<th>Eligibility/Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ I:14:334(ASM)</td>
<td>AT&amp;SF Railroad</td>
<td>Euroamerican</td>
<td>1996</td>
<td>Determined Eligible (A and D) – multiple determinations</td>
</tr>
<tr>
<td>AZ I:16:59(ASM)</td>
<td>Canyon Diablo Road</td>
<td>Euroamerican</td>
<td>2009</td>
<td>Unknown</td>
</tr>
<tr>
<td>AZ J:13:8(ASM)</td>
<td></td>
<td>Anasazi</td>
<td>1988</td>
<td>Not reported</td>
</tr>
<tr>
<td>AZ J:13:9(ASM)</td>
<td></td>
<td>Native Archaeological Culture</td>
<td>1988</td>
<td>Not reported</td>
</tr>
<tr>
<td>AZ J:13:10(ASM)</td>
<td></td>
<td>Native Archaeological Culture</td>
<td>1988</td>
<td>Not reported</td>
</tr>
<tr>
<td>AZ J:13:11(ASM)</td>
<td></td>
<td>Anasazi</td>
<td>1988</td>
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</tr>
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<td>1988</td>
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<tr>
<td>AZ I:15:156(ASM)</td>
<td>Route 66</td>
<td>Euroamerican</td>
<td>1990</td>
<td>Listed to NRHP (1989-04-05)</td>
</tr>
<tr>
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<td></td>
<td>Sinagua</td>
<td>1966</td>
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<tr>
<td>AZ J:13:15(ASM)</td>
<td></td>
<td>Native Archaeological Culture</td>
<td>1989</td>
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</tr>
<tr>
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<td></td>
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<td></td>
<td>Native Archaeological Culture</td>
<td>1989</td>
<td>Not reported Not determined</td>
</tr>
</tbody>
</table>

Note: The sites in the project area are numbered separately at the end of the table.
Arizona and National Registers of Historic Places

WestLand consulted the current listings of the ARHP and the NRHP. No sites listed on the ARHP are located near the project area. The NRHP lists 166 properties or districts within Coconino County, Arizona, as of September 9, 2013 (National Park Service 2013). One site (Route 66/AZ I:15:156[ASM]) is within the current project area, and the Canyon Diablo Bridge (listed 1988-09-30 as part of the Vehicular Bridges in Arizona MPS) is nearby, but outside the boundaries of Red Gap Ranch (see Figure 3).

The segment of Route 66 is located within the southwestern portion of Red Gap Ranch between the Meteor City traffic interchange and the BNSF Railroad (see Figure 3), where it is currently in use as part of the current frontage road to I-40; it is also known as Red Gap Ranch Road. The NRHP eligibility of this segment of Route 66 has not been determined according to the AZSITE site record. WestLand recorded the entire segment as two sections, separated by a borrow pit. Section B (between the borrow pit and the Meteor City traffic interchange) is recommended as contributing to the NRHP eligibility of the site under Criteria (A) and (D). Section A (between the borrow pit and the BNSF Railroad right-of-way) is recommended as non-contributing. The construction of wells, pipelines, and access roads is unlikely to compromise the integrity of setting or feeling of this site, regardless of its NRHP eligibility. However, modifications to the existing roadbed, road cuts, drainage-control features, or other aspects of Route 66 are likely to have an adverse impact on the NRHP eligibility of the site due to loss of integrity.

The Canyon Diablo Bridge is over 1 mile from the edge of the project buffer zone and is not visible as it is located within the walls of Canyon Diablo, below the surface of the surrounding plain. Red Gap Ranch does not fall within the viewscape of the Canyon Diablo Bridge. In addition, the Canyon Diablo Bridge was listed under Criterion C for engineering and is thus not affected by changes to the integrity of feeling or setting of the property.

Review of Historical Maps and Historical Documents

The project area is outside any developed urban area, so Sanborn-Perris Fire Insurance Company maps are not available. WestLand consulted the GLO maps of Township 19 North Range 13 East, T19N R14E, T20N R12½E, and T20N R13E (all published 1921), and T20N R14E (1883 and 1972). These depict the routes of three linear features: one historical road (unnamed); the Atchison, Topeka, and Santa Fe (AT&SF) Railroad, a parallel historical telegraph line, and a parallel access road; and one historical telephone line. The telephone line was observed and recorded (AZ J:13:41[ASM]), although in an alignment slightly to the south of the location depicted by the GLO. The railroad is outside the project area and was not encountered, nor were the telegraph line or access road. The other historical road was not observed. The alignment of Route 66 (AZ I:15:156[ASM]) documented in the project area is not shown, nor is Red Gap Ranch, indicating that these came into use after the publication of the maps. The GLO maps do not depict any other cultural features within or adjacent to the present project area.

SUMMARY

Records of the ASM AZSITE database, NNHPD, NRHP, and personal experience of the author identify 10 projects and 18 sites previously documented within 1 mile of the project parcel; 7 projects and 10 sites are within or immediately adjacent to the project area. One site listed in the NRHP (Route 66) is within the project area and one site listed in the NRHP (Canyon Diablo Bridge) is within 1 mile of the present project area. The present project area is not visible from the bridge, with is located within the walls of Canyon Diablo. In addition, the Canyon Diablo Bridge was listed under Criterion (C) for engineering and is thus not affected by changes to the feeling or setting of the property. The NRHP eligibility of this segment of Route 66 has not been determined according to the AZSITE site record. WestLand recorded the entire segment as two sections, separated by a borrow pit (probably the borrow pit inventoried as Project 1978-28.ASM, but misplotted by AZSITE). Section B (between the borrow pit and the Meteor City traffic interchange) is recommended as contributing to the NRHP eligibility of the site under Criteria (A) and (D). Section A (between the borrow pit and the BNSF Railroad right-of-way) is recommended as non-contributing. The construction of wells, pipelines, and access roads is unlikely to compromise the integrity of setting or feeling of this site, regardless of its NRHP eligibility. However, modifications to the existing roadbed, road cuts, drainage-control features, or other aspects of Route 66 are likely to have an adverse impact on the NRHP eligibility of the site due to loss of integrity. WestLand consulted the GLO maps of T19 North R13 East, T19N R14E, T20N R12½E, and T20N R13E (all published 1921), and T20N R14E (1883 and 1972). These depict the route of three linear features: one historical road (unnamed); the AT&SF Railroad, a historical telegraph line, and a parallel access road; and one historical telephone line. The USGS published the 7.5′ topographic quadrangles that cover the survey area in 1968 (Canyon Diablo [revised 1983], Meteor Crater [revised 1983], Tucker Mesa, Tucker Mesa NW, and Tucker Mesa SW. These maps depict Red Gap Ranch (AZ J:13:46[ASM]), the access road to Red Gap Ranch (AZ J:13:45[ASM]), Route 66 (AZ I:15:156[ASM]), the Coconino-to-Winslow 69-kV transmission line (AZ J:13:30[ASM]), and four other dirt ranch roads (AZ J:13:35[ASM], AZ J:13:38[ASM], AZ J:13:39[ASM], and AZ J:13:40[ASM]).
ENVIRONMENTAL SETTING

Red Gap Ranch is within the Colorado Plateau physiographic province (Nations and Stump 1981) on Kaibab limestone, Moenkopi sandstone, and residual soil formations (Chronic 1983:206). The vegetation is Great Basin Grassland (Brown 1994). The species observed within the survey area consist of grasses (including Indian ricegrass, sideoats grama, and blue grama), Russian thistle, snakeweed, saltbush, little sagebrush, globe mallow, paper flower, ragweed, winterfat, desert four o’clock, plains prickly pear, cholla, juniper, cliffrose, and tamarisk. Ground visibility ranges from 0 to 100 percent and averages about 80 percent open; however, due to an exceptionally moist monsoon season immediately prior to the survey, the basins within the Red Gap ranch survey area exhibited very heavy growth of grasses, which reduced ground visibility to zero at the lowest areas along drainages. Elevations above mean sea level (amsl) within the surveyed area range from 4,890 to 5,320 feet. Sandstone of the Moenkopi formation is exposed across most of the survey area as weathered hoodoos, slickrock exposures, and as gravelly sandy sediments.
CULTURE HISTORY FOR NORTH-CENTRAL ARIZONA

North-Central Arizona encompasses the Colorado Plateau surrounding the San Francisco Peaks, including the valley of the Little Colorado River, Grand Canyon, desert basins and mountain ranges, and rugged transitional uplands. This is often referenced as the Flagstaff Region, but extends well beyond the modern city limits of Flagstaff to include most of Coconino County, which incorporates the westernmost portion of the Navajo Nation. The study of the past human occupation of North-Central Arizona is organized into six broad periods: (1) Paleoamerican (before 9500 B.C.), (2) Paleoindian (9500–6500 B.C.), (3) Archaic (7500–2000 B.C.), (4) Agricultural (2000 B.C.–A.D. 1300), (5) Protohistoric (A.D. 1300–1540), and (6) Historic (A.D. 1540–present). The archaeological presence of Earliest Americans period has yet to be conclusively demonstrated in the archaeological record of the region, but is discussed below as it pertains to ongoing research into this period, and past interpretations of possible Earliest American sites along the Little Colorado River.

PALEOAMERICAN PERIOD

The existence of a paleolithic occupation of the Americas has been debated—and often rejected—for many decades (Boldurian and Cotter 1999:1–3; Faught and Freeman 1998). Many purported early man sites identified in the nineteenth and early twentieth centuries were hoaxes, and few sites older than 13,500 calibrated radiocarbon years before present (B.P.) have been securely dated or excavated by reputable scholars (Faught and Freeman 1998:33–38; Hester 1980:132). As careful stratigraphic excavation techniques and radiocarbon dating demarcated the Clovis horizon during the 1930s–1960s, the possibility of earlier occupations was vigorously rejected.

Recent investigations at sites in Virginia (Cactus Hill), South Carolina (the Topper Site), Texas (Buttermilk Creek and Gault), and Chile (Monte Verde) do seem to contain intact cultural deposits that date to before 13,500 B.P. (Collins 2005; Madsen 1999), again raising the possibility that such occupations existed and may be as old as 50,000 years (Collins 2005). The site of Meadowcroft in Pennsylvania, for which controversial pre-Clovis claims have been advanced and dismissed for decades, is once again a candidate for representing much older occupations (Hadingham 2004; National Park Service 2005:4). Collectively, a group of skeletal remains from sites throughout the western hemisphere that date prior to Clovis times have been referred to as Paleoamericans, as their cranial morphology is unlike that of Native Americans or any other modern population (Powell et al. 1999).

Currently, this period offers many questions but few answers. No clear pattern has emerged in terms of distinctive material culture, physical anthropology, or chronology, with each find suggestive of isolated, discrete populations rather than continental-scale technological horizons. Faught and Freeman (1998:33–38) surveyed the evidence of pre-Paleoindian occupations in western North America, compiling a list of 25 sites or complexes (including Malpais and San Dieguito) purportedly of this age. Although they suggest that most or all these sites or complexes do not represent unambiguous evidence of pre-Paleoindian occupation, subsequent excavations in coastal California (including the Channel Islands) have revived earlier claims for a pre-Paleoindian coastal adaptation. Unlike the sites with poor stratigraphic control, artifacts of ambiguous cultural origin, and/or poor chronometrics, the Channel Islands have produced well-dated cultural deposits indicative of a littoral-focused lifeway, including a
human skeleton (Arlington Springs Man) dated to almost 13,000 years old (12,900 cal B.P.; 10,950 rcbp: Fiedel and Morrow 2012:379), contemporary with Clovis. Faught (2008) reviewed and averaged 226 radiocarbon dates from 63 stratigraphic settings at 56 sites in North and South America: only three were older than 11,990 cal B.C.: Monte Verde, Chile (12,004±73 B.P., five samples averaged), Paisley Caves, Oregon (12,293±24 B.P., six samples averaged), and Page/Ladson, Florida (12,415±37 B.P., five samples averaged). Purported southwestern pre-Clovis occupations at Sandia Cave, the Lucy Site, Hermit’s Cave, and Pendejo Cave, all in New Mexico, are not generally accepted, although the latter two sites do contain Clovis or Clovis-age deposits (Cordell and McBrinn 2012:108, 109).

During the 1930s, when many possible Paleolithic sites were being reported in North America, a series of flaked stone scatters along the Little Colorado River near Tolchaco Trading Post were identified as being of this time period, including many crude-looking bifaces, “keel-shaped” scrapers, and percussion debitage similar to those of the European Upper Paleolithic (Bartlett 1943). Subsequent research has focused on the geologic setting of these sites, which are now known to extend along much of the lower and middle Little Colorado valley terraces as extensive deposits of very high-quality riverine gravels. Sampling and detailed recording of these have identified diagnostic artifacts from Paleoindian times to the Protohistoric period, tested cobbles, decortication flakes, and naturally damaged (stream-rolled) cobbles (Keller and Wilson 1976). Given the lack of stratigraphy and associated features, these deposits are now viewed as low intensity lithic procurement areas used for millennia, rather than as Paleolithic activity areas (Faught and Freeman 1998:37). Red Gap Ranch encompasses Tolchaco gravel deposits and associated lithic-procurement sites; these sites are the most commonly encountered resource in the present survey area.

**PALEOINDIAN PERIOD**

The Paleoindian period spans the end of the Pleistocene glaciations and the beginning of the Holocene or modern era, a period from which numerous radiocarbon dates have been recovered. These range from 13,500 to 10,000 B.P. [cal] (Fiedel 1999). The consensus view of Pleistocene archaeologists has been that the Clovis culture is the first indisputable human occupation beginning at 13,500 B.P. [cal, 11,400 B.P. c14], followed by a rapid succession of other traditions and complexes (Faught and Freeman 1998). Archaeological evidence of the Paleoindian period has been recovered from nearly every region of the Americas outside glacial margins (Smallwood 2012:690). Although it has been assumed for decades that Clovis is the product of people from northeastern Asia, a number of scholars have recently challenged this model, most notably Stanford and Bradley’s (2012) assertion that Clovis derives from the European Solutrean. Others have suggested that, regardless of the physical derivation of the Clovis people, the cultural tradition of Clovis developed in the Americas. Progressive change in point morphologies from north to south, radiocarbon dates, and linguistic evidence indicate a spread of Clovis technology from the interior of western North America outward to the north, northeast, east, and south (Morrow and Morrow 1999:227), or from coastal southern California (Moratto 1984), or in the southeastern region of North America (Bryan 1999), or from resource-rich river valleys near the glacial margins (Smallwood 2012). Regardless of the point of origin, the Paleoindian period consists of a series of distinctive technically sophisticated and specialized lithic technologies (Gramly 1992), beginning with Clovis (Bradley et al. 2010), which apparently developed to exploit mammoth and mastodon, and spread rapidly throughout North America (Buchanan and Hamilton 2009; Morrow and Morrow 1999). Clovis is the only
Paleoindian tradition with continental scope; all later Paleoindian complexes are regional, with marked differences in the nature and sequence of traditions east and west of the continental divide (Cordell and McBrinn 2012:115). Faught (2008) notes that fluted point and fishtail point sites (more than half of the radiocarbon dates) in his review of early dates are associated with the onset of the Younger Dryas climatic reversal at 11,000–10,800 B.P. Although the archaeological record does not speak of plant use by Paleoindians, this may reflect poor preservation and the lack of specialized tools for plant processing (Cordell and McBrinn 2012:110).

Arizona, in particular the San Pedro River Valley in southeastern Arizona, contains the most significant group of Clovis sites known, including Naco, Lehner Ranch, Escapule, Leikem, Murray Springs, Whitewater Draw, and Navarette (Haynes 2000, 2011; Huckell 1999). Haynes (2011), updating previous inventories of early Paleoindian point finds in Arizona (Agenbroad 1967; Huckell 1982), documented 109 Clovis points, including those from excavated contexts. His survey confirms previous observations (Huckell 1982, 1999) that virtually all the Clovis finds are from the eastern half of the state, east of 112 degrees longitude (Haynes 2011:352). West of this line, only eight Clovis points are documented: one (No. 63) from the extreme northwestern corner of the state on the Arizona Strip; three (Nos. 77, 95, and 105) from the northwestern Salt-Gila Basin in west-central Arizona; and four (Nos. 2 and 98 through 100) from southwestern Arizona (Haynes 2011). In addition, four other finds have been published, but were not included in Haynes’ (2011) summary: a Clovis projectile point base reported from the Arizona Strip (McClellan et al. 1978); a Clovis point found during the surface collections of a large prehistoric site at Bridal Creek (Zyniecki 2002); a Clovis point found by a rancher in the Aquarius Mountains (Wright 1993:14); and a Clovis point fragment found on the South Rim of the Grand Canyon in 2005 (examined by Phil Geib and identified as having been made from Narbona Pass Chert from the Chuska Mountains) (BLM ASDO 2011:I-3; Photographic Exploration.com 2013). Additionally, Huckell (1982) identified two “Clovis-Folsom” point bases made from Presley Wash obsidian near Ash Fork (BLM ASDO 2011:I-1-3). Huckell (1999) and Haynes (2011) theorize that the distribution of Clovis materials in Arizona reflects the material remains of a Clovis exploration from the vicinity of Lime Ridge, Utah (the location of a large Clovis site), into Arizona, then south or east, with the direction of travel suggested by the use of toolstone sources along the way.

Waters (1999) recently studied the principal drainages of Arizona in an attempt to determine why the San Pedro River Valley contains this concentration of Clovis sites, while few other major drainages in the Southwest produce any evidence of Clovis or pre-Clovis occupations (although see North et al. 2005 for a recent Clovis finding on the Agua Fria River). Based on the profiles exposed in geological test trenches, on reconstructions of stream flow, and on the composition of Pleistocene stream terraces, Waters (1999) concluded that most major Arizona stream channels experienced highly variable high-energy flows that were not conducive to creating stable landforms on which archaeological remains would be deposited, and further that the landforms that were formed were subject to massive erosion and were thus unlikely to have preserved the archaeological remains of any human occupations of that era. In contrast, the San Pedro River experienced low-energy flows and quickly buried late Pleistocene surfaces not subsequently eroded until the Historic period.

Outside of the Clovis site cluster on the lower San Pedro River in southern Arizona, Clovis sites are known from Payson, Arizona (Silktassle Site; Huckell 1978), Lime Ridge, Utah (Davis 1989) and
Mockingbird Gap (Weber and Agogino 1997) (Huckell 1999). Huckell identified 11 Clovis points in Coconino County and seven from Apache County, but Navajo County has reported only 2 (Huckell 1999). In the San Juan Basin of New Mexico, Huckell (1999) noted the presence of one Clovis point from San Juan County, and none for McKinley. San Juan County, Utah has reported three Clovis points, but Garfield only one and Kane none (Huckell 1999). Huckell’s 1999 survey of Clovis point finds supports the previous observation that Clovis people targeted certain landscapes; for example, Socorro County, New Mexico, contains 75 known Clovis points. In contrast, a total of 90 Clovis points are known from the 15 Arizona counties, 6 Utah counties, 3 Colorado counties, and 14 other New Mexico counties in Huckell’s survey (1999). Huckell interpreted this distribution as a possible route of travel by Clovis hunters, north to south from the area of the Petrified Forest to the San Pedro River valley. Likewise, Haynes (2011) survey of Clovis points in Arizona identified 10 points that have been found on or near the Navajo Nation (Nos. 28–30, 32, 56, 60, 78, 79, 86, and 93). Half of these are widely scattered, while the other five are located along the Colorado (No. 78 and 86) or Little Colorado (Nos. 56, 60, and 79) rivers (Haynes 2011:Table 1), including the Clovis point found in Wupatki National Monument (Downum 1993). The Black Mesa Archaeological Project did not identify any Paleoindian materials on Black Mesa, but did report previous findings of a Clovis Point at Shingopovi (No. 32 – Haynes 2001), at the Starling Site near Kayenta, and at the Late Paleoindian (Angostura or possibly Agate Basin) Badger Springs site near Inscription House (Smiley 2002). Badger Springs is significant as it contains an apparent cremation burial, in addition to a dense assemblage of tools and debitage (Smiley 2002:24, 25).

The Paleoindian period ended around 6500–5500 B.C., possibly due to shifts in climate that resulted in drier environmental conditions and a change in the distribution of plants upon which the big game animals fed. Some researchers suggest that all evidence of early groups would be deeply buried by alluvial deposition (Chlachula 2012; Tagg 1986). Indeed, most of the known Paleoindian sites in western North America were exposed by severe erosion during the early decades of the twentieth century, beginning with the Folsom site in 1908 (Cordell and McBrinn 2012). The practice of deep plowing for agriculture and the effects of the Dust Bowl period of hyper-aridity and erosion resulted in the exposure of many early sites during the 1930s in the Southwest and the Great Plains (LaBelle 1997).

**Archaic Period**

In terms of temporal length, size of sites, and archaeological visibility, the Archaic period dominates the prehistoric record of the western hemisphere, representing the development of regional lifeways based on exploitation of smaller game and numerous wild plant foods in response to the changing environment of the Holocene (Mabry 1998a). The shift to small seed processing in the Great Basin and the Colorado Plateau circa 9000 B.P. is visible in the archaeological record with the appearance of ground stone (Yoder et al. 2010) and basketry (Geib and Jolie 2008). Indeed, the development of the Archaic lifeway appears to vary widely throughout North America, beginning as early as 8000 B.C. on the Colorado Plateau and 6500 B.C. in southeastern North America, based on dates from Dust Cave, Alabama (Sherwood et al. 2004). In contrast, the grasslands of the southern plains in New Mexico and western Texas may have supported Paleoindian peoples as late as 5500 B.C. (Irwin-Williams 1973, in Cordell 1984:136). At the margins of the Southwest, the Archaic period dates from 7500 B.C. until historical contact, persisting concurrently with the agricultural lifeways that largely replaced hunting/gathering in the heart of the region by A.D. 400.
Regional traditions and sub-traditions are apparent in point types, raw material preferences, and site distributions (Mabry 1998a). Three regional Archaic traditions have been identified within North-Central Arizona: Northern Colorado Plateau, Oshara, and Great Basin (Desert). Oshara remains are found throughout northern New Mexico, extending west along the Little Colorado River Valley and north to the Four Corners. Northern Colorado Plateau Archaic sites are found in North-Central Arizona, extending from Tuba City into Utah. Most of the Archaic remains found at the westernmost end of the Navajo Nation can be attributed to a Great Basin Archaic affiliation, based on diagnostic projectile points and patterns of tool stone use (Smiley 2002). However, some late Archaic points in the Kayenta area resemble Oshara types Armijo and En Medio, perhaps suggesting changing boundaries or interaction spheres during this period (Smiley 2002:28-29). Huckell (1996) noted that the regional differences among Archaic traditions were most pronounced in the Early Archaic, but began to blur in the Middle Archaic.

Northern Colorado Plateau Archaic

The Northern Colorado Plateau (NCP) Archaic has been defined through excavations at a number of dry cave and alcove sites throughout the Glen Canyon region (Geib 1996), and has previously been termed the “Desha Complex.” Uniquely, this results in perishable artifacts such as open-twined sandals being recognized as diagnostic of the Early Archaic. The Early Archaic extended from 9000 years ago (8,030 B.C.) until about 6000 B.P. (4870 B.C.), a period that is marked by the advent of small seed processing, a practice that included manufacture of coiled baskets and the advent of manos and metates (Geib and Jolie 2008; Janetski et al. 2012; Yoder et al. 2010); Pinto, Northern Side-notched, Elko Corner Side-notched and possible Sand Dune Side-notched points are diagnostic. However, some archaeologists question not only the temporal placement of the Pinto point (Mabry and Faught 1998:59-61), but the validity of the type, as Pinto points appear to be discarded heavily resharpened Elko series points (Mabry and Faught 1998:60; Purcell 2000; Schroth 1994; Wilke and Fleniken 1989). Small seed processing, based on current data, appears to have been instigated in the NCP, and moved westward into the Great Basin. Other diagnostic Early Archaic artifacts of the NCP Archaic include both slab and deep basin metates, pigment slabs, polishing stones, worked bones and slab-lined pits. The Middle Archaic (4870–2490 B.C.) follows, and is marked by a steep decline in radiocarbon dates during the last millennium of the Early Archaic, and the end of occupation at many cave sites (Geib 1996:30, 31). Due to the paucity of Middle Archaic sites in the Southwest in general, it has often been viewed a period of abandonment in response to a much warmer and drier period, especially in the lower elevation desert regions (Mabry 1998a). As Geib (1996:32-33) notes, Middle Archaic sites have been documented in the Glen Canyon region, indicating that occupation continued, but at a much lower level of intensity, perhaps reflecting a demographic crash (Geib 2011). NCP Middle Archaic points constitute a distinctive assemblage of side-notched types: Sudden, Rocker, and Hawken. Late Archaic sites (2490–500 B.C.) are abundant in the region, and can be identified by diagnostic Gypsum, Elko Earred, and McKean Lanceolate points. Open sites are numerous and visible due to the use of slab-lined hearths, and shelters are reoccupied, producing deep and visible layers of trash (Geib 1996:37, 38).

Oshara

The Oshara Tradition (Irwin-Williams 1973), thought to be antecedent to the Anasazi culture, is a five-phase sequence beginning with the Jay phase (5500–4800 B.C.) and continuing with the Bajada (4800–
3200 B.C.), San Jose (3200–1800 B.C.), Armijo (1800–800 B.C.), and En Medio (800 B.C.–A.D. 400)/Trujillo phases (A.D. 400–600). The first three phases of the Oshara tradition are recognized by stemmed dart points, with a later change to carred and notched points in the last two phases. The Jay point is a large point with a long, tapered stem and rounded shoulders, similar in appearance to the Lake Mohave point of the San Dieguito tradition of the Mohave Desert (Irwin-Williams 1973; Mabry and Faught 1998:55). A common origin in the Paleoarchaic Western Stemmed tradition may explain the similarities; some archaeologists view Lake Mohave and Jay as Paleoindian artifacts in technology, if not age (Mabry and Freeman 1998:53–55). The Jay phase assemblage also includes leaf-shaped bifaces and unifacial scrapers, as well as milling stones. Bajada points are smaller, with parallel stem edges and often a basal concavity; shoulders are less pronounced and the blades are more triangular in shape. Other Bajada phase artifacts are similar to those of the Jay phase, but rock-filled roasting pits appear during Bajada times. San Jose points have much shorter stems and are often found after having been repeatedly resharpened in the haft, and resembling Pinto points (Mabry 1998b:65, 68). Middle Archaic sites have been documented on the Defiance Plateau, at the Hastqin Site near Ganado, and on Black Mesa (Mabry 1998b). In the Armijo phase, points exhibit a broad, flaring stem, often carred, and short, serrated blade (although long Armijo points suggest that, as with San Jose, many examples of this type were discarded after long use and refurbishment). En Medio points mark another change, to much smaller side- or corner notched points very similar to the Elko series of the Great Basin and Northern Colorado Plateau traditions. Irwin-Williams (1973) Oshara research was conducted in the Arroyo Cuervo area in north central New Mexico, but has been applied across much of the northern Southwest. Only recently have some of the similarities in diagnostic tools between Oshara and other Southwest traditions been acknowledged in New Mexico (Turnbow 2009).

**Great Basin Archaic**

Formerly known as the Desert Culture (Jennings 1978) or Western Archaic, the Great Basin Archaic represents a unique lifeway focused on the pluvial resources of relict Pleistocene lakes and marches. Because the technological differences between the Great Basin Paleoindian traditions, which include both fluted and stemmed points, and the continuation of the stemmed point tradition into the Holocene, many Great Basin archaeologists now refer to a “Paleoarchaic” period and culture (Beck and Jones 2012; Janetski et al. 2012). Great Basin Archaic phases seem to exhibit different diagnostic points by subregion (eastern and western), with overlap into the NCP of some types such as Elko, Northern Side-notched, and Sudden Side-notched (Mabry 1998b:69). Holmer (1986) notes that Elko series points were popular in the Eastern Great Basin during intervals in the Early, Middle and Late Archaic, but in the western Great Basin, Elko points are a Late Archaic diagnostic only. Middle Archaic sites of the Great Basin Archaic in Arizona typically contain Elko, Northern Side-notched, and “pinto” points, but are never found with Bajada and San Jose points, suggesting temporal differences or cultural boundaries (Mabry 1998b:70). San Rafael Side-notched points appear toward the end of the Middle Archaic (4400–3500 B.P.) in the Great Basin and NCP (Mabry 1998b). Much of the Great Basin appears to have been abandoned during the Middle Archaic. The Late Archaic of the Great Basin is marked by a proliferation of point types and hafting technologies, with several intervals during which Gypsum, Gatecliff Split-stem, San Rafael Side-notched, and McKean Lanceolate points co-occur with NCP and Oshara types on the Navajo Nation; however, Cortaro points do not extend onto the Colorado Plateau, and Gypsum and Armijo/late San Jose points are not found north of the Colorado Plateau (Mabry 1998b:73).
AGRICULTURAL PERIOD

The three hallmarks of the Ceramic or Agricultural period—ceramic containers, villages, and agriculture—entered the Southwest during the Archaic period in southern Arizona. These attributes did not appear all at once, as once believed, but developed or were introduced over nearly 2,000 years. Recent excavations along the Santa Cruz River in the Tucson Basin have produced abundant evidence that villages first developed in the Middle Archaic period (Gregory 1999). Around 1550 B.C., maize was introduced from central Mexico (Gregory 2001), the first of a series of tropical or sub-tropical plants to be brought to the Southwest as fully developed cultivars. Archaeologists have debated for decades on what effect maize had on the cultures of the Southwest, with some asserting an immediate, permanent change to an agricultural lifeway, while others seeing little visible effect in the archaeological record. As a result of the excavations at Las Capas, Los Pozos, Stone Pipe, and other early Santa Cruz sites, a new perspective is emerging, that of seasonal villages along major waterways gradually becoming permanent as maize and other crops are better adapted to the latitude and climate of the Southwest, contemporaneous with the continued presence of hunter/gatherers. Huckell (1996) recently redefined this transition as the Early Agricultural period. Middle Archaic period villages at the base of “A” Mountain in Tucson were apparently experimenting with pottery during the second millennium B.C. (Thiel 2002:15), with more fully fired and polished pottery appearing during the late San Pedro phase (Mabry 1998c:780–783) or Cienega phase (Heidke 1999).

Basketmaker II/Early Agricultural

During the Early Agricultural period, villages and farmsteads soon developed in each of the drainages of the Sonoran and Chihuahuan Deserts, from the Rio Grande west, with many sites having been found in the Santa Cruz, San Pedro, San Simon, and Gila Valleys (Whittlesey 2010). It seems likely that Early Agricultural villages will eventually be identified along the Lower Colorado River as well, as the Las Vegas Valley/Muddy River area contains numerous Basketmaker II and III sites (Shutler 1961; Winslow 2006; Wright 2008). These early desert farmers soon expanded northward into the Arizona Transition zone and onto the Colorado Plateau (Gilpin 1994; Matson 1999), where this interval has long been known as the Basketmaker tradition (Roney and Hard 2002). As of yet, these changing systemics have not been formally integrated into a revised regional cultural chronology, although one such scheme is offered here.

Evidence from sites throughout the Southwest now indicates that corn was being grown around 2,000 B.C. in a variety of settings and elevations from 1,000 to 6,000 feet (Cordell and McBrinn 2012:Figure 5.6). Evidence of this development has been found at sites within the Navajo Nation, including Lukachukai and Salinas Springs (Gilpin 1994), on the Rainbow Plateau (Kin Kahuna) (Geib 2011; Geib and Spurr 2002), White Dog Cave in Marsh Pass (Guernsey and Kidder 1921), and at Three Fir Shelter on Black Mesa (Smiley 1994). The nature and mechanism of this change remains an area of active debate, between scholars who model a diffusion of agricultural knowledge and seeds, and those who advocate for a migration from early villages in the south. The distribution of known early agricultural sites suggests that people began to move out of the desert river valleys of southern Arizona and New Mexico, following the larger rivers to their headwaters on the Colorado Plateau, Mogollon Rim and southern Rocky Mountains; however, the radiocarbon dates south and north of the Mogollon Rim are nearly contemporaneous, suggesting a rapid movement north (Cordell and McBrinn 2012:138).
The Basketmaker tool kit includes the atlatl, one hand manos and slab grinding stones, and many perishable items, including the eponymous baskets; pottery is not present, and its adoption marks the transition to Basketmaker III. Basketmakers resided in caves and rockshelters, and in open sites; apparent summer sites include shallow, temporary shelter foundations, and winter sites have 2-12 deep pithouses (Cordell and McBrinn 2012:144-145). Many early agricultural cave sites were intensively used by farmers, but show little evidence of use in preceding periods. All Basketmaker sites contain numerous, large storage features (often slab-lined), indicating that with the adoption of maize (and possibly other crops) came a heightened concern for storage of maize through the winter (Potter 2011:448). Some of the storage pits may have been covered with a dome-shaped cover of adobe (Potter 2011). Basketmaker II pithouses were shallow and circular with a central hearth (Potter 2011), similar to early agricultural houses throughout the Southwest. Differences in material culture between Basketmaker II sites in the Animas and La Plata (Durango area) drainages, and those on Cedar Mesa and Glen Canyon have suggested ethnic divisions between Eastern and Western Basketmaker populations (Matson 1991).

Ceramic

The Ceramic period culminates a transition from a hunting/gathering economy to agriculture, villages, and ceramics in the western hemisphere (Ford 1969), including most of the Southwest (Cordell 1984). Willey and Phillips (1958:146) define the Ceramic (also known as the Formative) period “by the presence of agriculture, or any other subsistence economy of comparable effectiveness, and by the successful integration of such an economy into well-established, sedentary village life.” Distinctive regional archaeological traditions emerged after the first century A.D. from the nascent agricultural villages of the Sonoran and Chihuahuan Deserts. The adoption of plain ware ceramic containers became widespread in the southern Arizona deserts around A.D. 1–150, with local variations in the timing of this event (Deaver and Ciolek-Torrello 1995). The Plain Ware horizon (dated by Lindeman and Wallace [2004] to A.D. 150–475) was followed by the Red Ware horizon (A.D. 475–675/700; Lindeman and Wallace 2004), during which a red slip was applied to plain ware vessels (Whittlesey and Heckman 2000). Common, pan-regional pottery designs that appear during the Broad-Line horizon, however, suggest that during this period these groups continued to interact and draw upon a shared aesthetic sense. With the advent of elaborated ceramic designs that mark the onset of the Fine-Line horizon, and the Middle Formative period, each of these traditions became more different than similar to one another in pottery decoration as well as other material remains (Heckman and Whittlesey 2000).

Four major Ceramic period archaeological cultures developed in the Southwest and southern Great Basin: the Anasazi, Mogollon, Hohokam, and Patayan (Cordell and McBrinn 2012:73). Archaeologists have traditionally distinguished among these peoples at a macroscopic scale by differences in architecture, burial customs, flaked stone and ground stone tools, and pottery, often bundled with a regional area of distribution (Cameron 2005:228–231), a concept that has recently come under attack from a number of intellectual quarters (Cameron 2005; Riggs 2005:325, 326). These regional cultures likely included speakers of multiple, unrelated languages, and are so broadly described that the commonalities so evident to archaeologists would not have been apparent to the people so labeled. Regardless, the patterns are robust and readily identifiable, and the culture concept remains a useful construct for comparison of the material culture of different groups at a regional scale.
From A.D. 300 to 1300, the Colorado Plateau and adjacent regions were home to agricultural people who made pottery with distinctive geometric designs in black on fields of white, gray, or red. This culture, known to the Diné as ‘Anaasízí and to archaeologists as the Anasazi, developed from the Basketmaker tradition of the Early Agricultural period (Begay and Begay 2003; Walters and Rogers 2001). The culture history of the Anasazi was described at the first Pecos Conference of 1927, and is known as the Pecos Classification (Cordell and McBrinn 2012:74). It describes a sequence of developmental stages that begins with the Early Agricultural Basketmakers: Basketmaker II (1500 B.C.–A.D. 300); Basketmaker III (A.D. 300–700); Pueblo I (A.D. 700–900); Pueblo II (A.D. 900–1100); and Pueblo III (A.D. 1100–1300). Subsequent phases in this scheme fall within the Protohistoric (Pueblo IV) and Historic (Pueblo V) periods. The sequence was developed from observations in the Northern San Juan and Chaco areas, where it remains most useful (and most used). The timing of these stages has been found to differ in the more remote provinces, especially the Virgin tradition of the Arizona Strip and southwestern Utah, where the sequence appears to end by A.D. 1200 or 1250, but in others, such as the Northern Rio Grande and Gallinas, evidence of early stages is lacking, suggesting immigration to previously little occupied districts. Basketmaker II was discussed above, with the Archaic.

Due to general similarities among Anasazi and Mogollon sites in material culture after A.D. 1000 (Wheat 1955), many archaeologists have begun to refer to an “Ancestral Pueblo” or “Ancestral Western Pueblo” tradition that encompasses much of the area of the Anasazi and Mogollon (Riggs 2005:325, 326), although others have used this term to replace Anasazi (Riggs 2005:324), which is disliked by some descendant groups (Walters and Rogers 2001). Other ceramic traditions flourished in territories between the major traditions, including the Cohonina north and west of the San Francisco Peaks, the Cerbat in western Arizona, and the Sinagua in the Verde Valley and east and southeast of the San Francisco Peaks, extending nearly to Winslow. The Hopi regard all these traditions (and others not described above) as ancestral.

**Sinagua**

North-central Arizona, along the Little Colorado valley from Diablo Canyon to near Cameron, was the home of the Sinagua, an archaeological name for people with different preserved material culture from the Anasazi (Colton 1946). Sinagua people made brown-paste pottery using paddle-and-anvil to join the coils and thin the vessels, unlike the pinch and scrape methods of the Anasazi; like the Mogollon, Sinagua pottery often features smudged interiors (Colton 1960:40). Also like the Anasazi, the Sinagua built pithouses and substantial aboveground masonry structures, including multiroom pueblos. Other material culture, including projectile points and grinding stones were different, but site layout was similar to Anasazi dwellings. The Sinagua occupied two areas: the Northern Sinagua inhabited the eastern flanks of the San Francisco Peaks, from the base of Mount Elden to the Little Colorado valley; the Southern Sinagua dwelt in the middle Verde Valley, below the Mogollon Rim. Because many archaeologists are concerned with classification and affiliation, the Sinagua have been variously assigned as Mogollon, Anasazi, Central Arizona Tradition or a unique tradition, equal to their contemporaries (Cordell and McBrinn 2012:38). The Sinagua tradition underwent an exceptional experience in the early 11th century, when the San Francisco volcanic field produced a new vent: Sunset Crater. Although the effects and duration of this eruption continue to be actively debated, the volcano forced local resident to relocate, enhanced the agricultural productivity of soils within the area of ash fall (the “black sands” Colton 1960;
Waring 2007), and led to new interactions with other southwestern groups, especially the Anasazi and Hohokam. Following the eruption, large sites developed including Elden Pueblo, Winona, Ridge Ruin, and Wupatki, featuring the construction of a Hohokam-like ball court and a Chaco-like pueblo at the latter (Gilpin 2003). Three phases mark the pre-eruption period: Cinder Park (A.D. 700–850), Sunset (A.D. 825–1000), and Rio de Flag (A.D. 1000–1064). Following the beginning of the eruption, which may have taken place over just a few months or years in the interval A.D. 1050–1125 (Ort et al. 2007), five additional phases of Sinagua prehistory took place: Angell-Winona (A.D. 1064–1100), Padre (A.D. 1100–1160), Elden (A.D. 1150–1250), Turkey Hill (A.D. 1250–1300), and Clear Creek (A.D. 1300–1400) (Bradley 1993).

**Pueblo Sequence**

Basketmaker III marks the appearance of pottery in the tool kit, as well as formalization of site layout, pithouse design, and possibly some regional developments into Eastern and Western traditions (Potter 2011). The bow-and-arrow appear around A.D. 500 and are quickly adopted. During Basketmaker III the Chuska Slope, Animas Valley, Navajo Mountain area, Kanab Creek, and the Virgin/Muddy River valleys contained many villages.

Pueblo I is notable for the development of decorated pottery, using designs that clearly originated with basketry and textile decoration, establishing a geometric and angular aesthetic that comes to define the Anasazi tradition (Dittert and Plog 1994:77-78). All pottery is fired in a reducing atmosphere, giving the paste a gray color; decoration is black paint directly on light colored paste, or over a white or red slip. Plainware ceramics develop textural decoration in the form of unsmoothed neck coils, giving vessels a ribbed or banded appearance (Dittert and Plog 1994:74-75). Pueblo I people modify the Basketmaker site layout, building deeper pithouses, with an arc of jacal storage rooms to the northwest and a trash midden to the southeast, an arrangement known as a Prudden Unit (Prudden 1903). In Pueblo I times, the Montezuma Valley of southwestern Colorado witnessed a large population and the development of large village communities; southeastern Utah was also a major locus of settlement.

Pueblo II was an expansion and increase in population across the landscape, reaching the greatest geographic extent, and including many smaller sites in areas previously less favorable for agriculture (Matlock and Warren 1988). Chaco Canyon reached its peak and the San Juan basin was the most densely settled Anasazi region (Kantner 2003). Above-ground masonry dwellings became the preferred residential dwelling, although pithouses remained in use in some areas. The basic Prudden site layout was retained, but the former pithouse became a semi- or fully-subterranean structure called a *kiva*, and the storage rooms are transformed into linear rows or blocks of masonry or mixed materials living and storage rooms. Kivas are thought to represent religious or ceremonial structures (but see Lekson 2008). Larger community or religious structures first appeared during the Early Agricultural Period, with community kivas developing by late Basketmaker III times. Household or lineage-specific kivas are a Pueblo II development. Neck-banded plainwares are further developed with overall patterns of indentations to produce an effect known as corrugation, a distinctive and attractive appearance which may also have aided in vessel handling, thermal shock resistance, and temperature control (Dittert and Plog 1994:75). Decorated pottery is dominated by black designs on white slip with regular, symmetrical design layouts and a balance between design elements and the slip (negative space). Basic design patterns during this
period—bold geometric lines, geometric elements filled with hatched lines, and ornamented geometric solids and lines—appear throughout the Anasazi world (Dittert and Plog 1994). The consistency, careful craftsmanship and layout, and similarity of designs on vessels within the central provinces (Kayenta, Chaco, Northern San Juan) suggest that decorated pottery is manufactured by specialists (Wilson and Blinn 1995). Conversely, departures from the established design style in the Virgin (in particular) suggest local emulation of trade vessels by household producers or less-experienced specialists.

Pueblo III saw the development of large villages and cliff dwellings in Mesa Verde, Tsegi Canyon/Skeleton Mesa, southern Black Mesa, the Middle Little Colorado, and Mogollon Rim. Chaco Canyon is eclipsed by settlements in the Totah area of the Middle San Juan, including Salmon, Aztec, and Chimney Rock. The distinctive “McElmo” style of masonry architecture, with large, dressed blocks of stone, appears in later sites at Chaco Canyon such as Wijiji, as later additions to established towns such as Pueblo Bonito, and in the Middle San Juan and Mesa Verde. Long thought to represent an intrusion from Mesa Verde, current research indicates that this style originated at, and represents influence from, Aztec. Kivas are incorporated into large, multi-family room blocks as both community or clan structures (usually in the plaza) and as part of extended family room suites. Corrugated pottery persists, and in some areas is elaborated with patterns, band, and zones of corrugation, inscribed designs, and other ornamentation. Designs on decorated pottery become busier, with the design elements dominating the decorated surface, leaving little visible slip (Dittert and Plog 1994). Serious drought conditions develop over the Four Corners in the late 1200s, persisting for 30 years until A.D. 1300, an event remembered in Diné stories (Begay and Begay 2003:50, 51). In response, people living in Mesa Verde move east (into the Northern Rio Grande and Gallina) and south (as far as the Black Mountains) and people living in Tsegi Canyon, Canyon de Chelly and northeastern Arizona move south (to the Safford Basin and lower San Pedro) and west (to southern Black Mesa). All the large villages are abandoned. Some survivors of this catastrophe may have stayed behind and joined with immigrant Numic- and Athabaskan-speaking groups to form new groups with a mobile hunter/gatherer or hunting lifeway (Begay and Begay 2003), including traditions known at the time of Spanish contact as Ute, Navajo, Apache, and Paiute.

TRANSITIONAL/PROTOHISTORIC

From A.D. 1300 to European contact (A.D. 1540–1776, depending on location), the Protohistoric was a period of tremendous cultural change in the Southwest. Although Gilpin and Phillips (1998) narrowly draw the Protohistoric using historic events, from the conquest of Mexico by Cortez in 1519 to the Spanish Reconquest of New Mexico in 1692, poor chronometric control and the very limited Spanish influence outside of a few locations tend to limit this period to historical Spanish and Pueblo sites only. A broader view, seeking to identify when the historically documented tribes of Arizona first achieved archaeological visibility and to better understand the dramatic reorganization of extant prehistoric cultures, places the Protohistoric period between A.D. 1275 or 1300 and European contact (Adams and Duff 2004; Purcell 2001). Some researchers (Cordell and McBrinn 2012) identify an interval of cultural transformation and migration from A.D. 1150 to 1400, during which the Hohokam, Mogollon, and Anasazi cultures underwent profound reorganization.

The Protohistoric Period is marked by large-scale migrations of people, the archaeological appearance of new traditions, and a general trend toward larger and larger settlements in fewer locations. The Four
Corners area is abandoned by the Anasazi, who move to the northern Rio Grande, middle Rio Grande, Gallina district, Black Mountains, Safford Valley, upper San Pedro Valley, middle Little Colorado River Valley, Anderson Mesa, and southern Black Mesa. From these movements, and interactions with local people, the ancestral Rio Grande Pueblos, Salado tradition, and ancestral Hopi develop as archaeologically-recognizable entities. Anasazi and Mogollon communities merge along the White Mountains and upper Little Colorado River to form communities ancestral to the Zuni and Acoma pueblos. Speakers of Numic languages moving eastward from California settled north and east of the Colorado River (Southern Paiute) where they pursued a hunting and gathering lifeway, and in southern Utah and Colorado (Ute) where they were big game hunters, but also collected wild plants (Fowler and Matley 1979). Distinctive archaeological patterns associated with the Athabaskan-speaking Apache and Diné (Navajo) first become visible in the archaeological record of this time in the Southwest, but may have been present much longer, as oral tradition indicates. The very earliest Diné sites may date between A.D. 1350 and 1500 (Goodman 1982:53), but lacking distinctively Diné artifacts or architecture, are difficult to separate from other Apachean, Ute, or even Pueblo limited activity sites. This issue pervades archaeological studies of both the Protohistoric and mobile hunters and hunter/gatherers in general (Seymour 2008). Clusters of large ancestral Pueblo villages are present during this phase (Pueblo IV of the Pecos Classification), with mobile hunters and hunter/gatherers using the spaces in between. By the end of the Protohistoric, the people of the Southwest have developed the characteristics of culture, language, and lifeway by which they were known to the Spanish explorers and colonizers of the Historic period.

**HISTORIC PERIOD**

Beginning in 1492, explorers sailing under the flag of Spain visited locations in the Americas. Spain conquered the Aztec Empire in 1519, initiating the Historic period in Mexico and the Southwest. The consequences of this event included indirect effects at great distances from Tenochtitlan, renamed La Ciudad de Mexico, in that year; these included the introduction and spread of European diseases to native peoples, successive displacement of native groups into new territories (occupied by other groups), and disruption of regional trade networks, events little documented in written records, and seldom preserved in the archaeological record. In the following centuries, the historical record of the region witnessed the Southwest ruled by Spain through the territory of Nuevo España (1540–1821), the Republic of Mexico (1821–1848), and the United States of America (1848–present).

In A.D. 1540, Spanish adventurers based in Mexico launched an invasion of the Southwest, seeking gold and other treasure, and land. During the Coronado Entrada of 1540–1542, Zuni villages were attacked and burned, and the Spanish met Hopis, Pueblos, and others during their campaign. Although the Zuni bore the most direct brunt of this assault, European diseases, technology, and livestock moved beyond the sphere of direct contact to affect other groups of people, including the Diné. Although the Spaniards did not find the treasure that they sought, and the organizers of the expedition were bankrupted as a result, other Spaniards returned to take land and religious converts. The river valleys of southern Arizona and the Rio Grande Valley of New Mexico were the primary focus of Spanish colonial efforts, and it was in New Mexico that the Diné and Spaniards first interacted.
Spaniards first encountered the Diné, whom they called Querechos, during the 1540–1542 Coronado Entrada, in the Dinétah phase. Later Spanish expeditions, during the later Dinétah phase, named them “Apaches de Nabajo.” It was not until after the Pueblo Revolt that the Diné became primarily pastoralists, rather than agriculturalists. Linguistically, the Dine are related to the Apache (Dene), the Yurok in northern California, and the Athapaskans of the Yukon in Canada and Alaska (Forbes 1960; Gunnerson and Gunnerson 1971; Sapir 1936). The early historical Diné culture history includes the Dinétah (A.D. 1500–1650) and Gobernador (A.D. 1650–1760) phases, which essentially mark occupations prior to, and after, the Pueblo revolt of 1680 (Gobernador Phase may have begun prior to the actual events of the Pueblo revolt due to military and economic pressure the Spanish exerted on the Diné). Early sites include gray plainware pottery (Dinétah Gray) and much higher-fired decorated wares (Gobernador Polychrome), faunal remains from hunting small and large game, grinding stones from plant processing, and evidence of animal husbandry (Bailey and Bailey 1998; Towner and Heckman 2011). Diné residences include forked-stick (or forked-pole in some references) hogans and masonry “pueblitos” (small, masonry surface dwellings often in secluded or defensive locations). Gobernador polychrome and pueblito architecture are Gobernador Phase additions to Diné cultural patterns for the Dinétah Phase. By 1700, the distinctive architecture and materials culture of the Diné is well-established in northwestern New Mexico in Dinétah (Towner and Heckman 2011). The designs of Gobernador Polychrome, and architecture of the pueblitos indicate close interactions between the Diné of Dinétah and Pueblo people (Brown 1996), although the concept that the pueblitos functioned as refuges for mixed Diné and Pueblo groups has not been supported by more recent archaeological investigations (Towner 1996; Towner and Heckman 2011). Nevertheless, it is one of many events that demonstrate the common Anasazi ancestry of Diné and Pueblo people. The Gobernador phase was marked by raids by the Ute, in particular, necessitating the construction of the defensive pueblitos, and eventually, migration from Dinétah south and west (Towner 1996). It was during this period the settlements west of the Chuskas are thought to have developed (ca. 1760), including pueblitos and large villages (Gilpin 1996). The acquisition of horses in the eighteenth century led to a period of raiding after 1800, some of it in retaliation for earlier Spanish, Ute, and Comanche slave raiding. In response, and to facilitate the expansion of English-speaking Americans (“Anglos”) into Indian country, the United States Army began an aggressive policy of military action against the Diné, culminating in the Kit Carson expedition of 1864, during which all of the Diné who could be captured were rounded up and forcibly marched overland to Bosque Redondo in east-central New Mexico (Forbes 1960).

During the period 1590–1821, the native peoples of the Southwest were the focus of Spanish colonial efforts through the development of missions and presidios (Bronitsky and Merritt 1986; Thiel and Vint 2003). This well-documented system subjugated local Native Americans in an economic system designed to develop and extract local resources, particularly agricultural crops and livestock, in support of urban centers in Mexico. The Spanish Colonial period ended abruptly in 1680, when a well-orchestrated rebellion of Pueblo people at Hopi, Zuni, and the Rio Grande pueblos forced the Spaniards to withdraw to Mexico. The Pueblo Rebellion phase (1680–1692) witnessed the destruction of Spanish churches at Awatovi, Pecos Pueblo, and other locations, the killing of Spaniards and their allies, and the burning of haciendas (Levine 1995). In 1692, the Spaniards launched a counter-attack, the Reconquest of New Mexico, which reclaimed for Spain the Rio Grande Valley and surrounding territory, but did not attempt to reacquire territories in northern Arizona. Southern Arizona and northern Sonora, which remained in Spanish control, were the focus of missionizing efforts by Fathers Eusebio Francisco Kino (1687–1711)
and Tomás Garcés (1775–1776), who explored much of southern Arizona and established missions along the San Pedro, Santa Cruz, and Gila Rivers. The San Pedro Valley, subjected to repeated Apache attacks, was used by the Spanish as a frontier line of defense, anchored by presidios (fortified garrisons) at the Sobaipuri village of Quiburi (Presidio de Terrenate, established 1775) and Las Nutrias in Sonora (Thiel and Vint 2003). These protected the “heartland” of Spanish activities in northern New Spain along the Santa Cruz River, where the Presidio at Tucson protected Spanish, Pima, and Sobaipuri settlements. Isolation, the high cost of maintaining supply lines, and unrelenting Apache raids forced the Spanish to withdraw from the San Pedro by 1780 (Thiel and Vint 2003). The Post-Rebellion phase (1692–1821) witnessed constant pressure on Spanish settlements by mobile groups (Apache, Comanche, and Navajo), but a more successful and long-lasting development of Spanish institutions and language.

During the Mexican period, most of what became Arizona remained well beyond the reach of most of the principal events of the period (Officer 1987:5). American encroachment on Mexican territory in the Southwest, including the opening of the Santa Fe Trail, led to the Mexican War of 1846–1848 (Ellis 1971:114; Officer 1987:192, 194, 202), which concluded with the formal ceding of Texas, New Mexico Territory, and California Alto to the United States under the Treaty of Guadalupe Hidalgo. In the same year, the discovery of gold at Sutter’s Mill, California, was confirmed. A series of expeditions across northern Arizona followed in order to identify safe emigrant trails. Sitgreaves (1851) and Whipple (1854) scouted the 35th parallel for a possible emigrant route to California, both traversing the Flagstaff area on their way to the Colorado River. Beale followed in 1858–1859, mounted in part on camels, surveying and constructing the wagon road that came to bear his name and that was intended as the precursor to a transcontinental railroad line. The Beale Wagon Road opened the area surrounding the San Francisco Peaks to further exploration and settlement (Cline 1976).

In 1854, the portion of Arizona south of the Gila River was added to New Mexico territory through the Gadsden Purchase, but Arizona was not organized as a separate territory until 1863. During the Civil War, an Arizona Territory was briefly declared by the Confederate States, which encompassed the southern halves of the present Arizona and New Mexico, thus providing the CSA with an overland route to California. With the defeat of the Confederate advance at Picacho Peak and Glorieta Pass, the Civil War in Arizona came to an end (Alberts 1984). Army bases were re-garrisoned, providing protection to prospectors, cattle raisers, sheep men, and homesteaders. However, these dramatic influxes to Arizona swiftly led to conflict between the newcomers and native peoples. In 1859, the Mojaves fought and were defeated by the U.S. Army, who established Fort Mohave at the head of Mohave Valley at Beale’s Crossing to protect emigrants on the Beale Wagon Road (Collins et al. 1993; Frazer 1965). Under an intensification of the war against the Indians, most Navajos were forced to Ft. Sumner in New Mexico in 1864, but allowed to return to their homelands in 1868, which is now included within the boundaries of the Navajo Reservation. The Hualapai Wars of 1867–1869 witnessed numerous skirmishes between the Hualapai and the U.S. Army, which pursued a scorched earth policy of burning Hualapai rancherias throughout the region.

Following the subjugation of the Navajos, and later the Apache, the Little Colorado River Valley began to receive more attention from Euroamericans. Mexican settlers, who grazed cattle and sheep, were among the first to move into the area: Concho was established in 1870 and, soon after, St. Johns was founded by Soloman Barth (Bradford 1980). Very shortly thereafter, the region was settled by members of the Church
of Jesus Christ of Latter Day Saints (the Mormons), who were extending their territory southward from Utah, following the Little Colorado River Valley (Ferg 2005) from Black Falls upstream to Round Valley (Doelle 2005). The Mormons established a series of settlements along the Little Colorado River in 1873, including what is now Winslow (Sunset Crossing and Brigham City) and Joseph City (Oben and Allen’s Camp) (Trimble 1986:253-268). Euro-American settlement of the Flagstaff area began with the two “Boston Parties” in 1876, which failed to establish a permanent presence but are often credited with building a flagpole on July 4, 1876 by which Flagstaff was named (Barnes 1988; Cline 1976:75). A few individual settlers (Thomas F. McMillan, Frank Hart and Charles O’Neill) who later helped to establish Flagstaff also arrived in the area about this time (Cline 1976:75). In 1877, the Mormon colonists in the Little Colorado valley near present day Winslow established a cabin at Fort Valley (Leroux Spring) and the Mormon Dairy at Mormon Lake in 1879. During the 1870s, sheep men from California began to use the Flagstaff area after a serious drought, bringing many settlers, including Basque sheepherders (Cline 1976; Stein 1991). Cattle ranchers soon followed, including the Babbitt Brothers, five brothers who established the C.O. Bar ranch north of Flagstaff, which remains one of the largest working ranches in the west.

Arizona achieved statehood in 1912 after numerous failed attempts (Trimble 1986). By the end of this period, a program was promoted for the creation of a network of paved and straightened roads across the region (Arizona Good Roads Association 1976), reclamation projects impounded many of the major waterways of Arizona, and Phoenix entered a period of rapid growth that eclipsed all other settlements.

The sun-baked grasslands between Winona and Winslow are sparsely settled, and is a region that has been traversed with difficulty (Mangum and Mangum 2008; Trimble 1986). The original focus of settlement in the vicinity of Red Gap Ranch was at Canyon Diablo, a notorious boomtown that developed at the edge of the canyon of the same name. Construction of the transcontinental Atlantic and Pacific Railroad was forced to a halt by the precipitous and wide Canyon Diablo (Janus Associates Incorporated 1989:5-6). The 253-foot deep and 300-foot wide chasm required the engineering and construction of an expensive steel truss bridge in 1881-1882 (Barnes 1988:75-76). The bridge was built in Buffalo, New York, disassembled and shipped to the construction front and hauled by mule team to the canyon edge and reassembled (Janus Associates Incorporated 1989). Canyon Diablo developed on the canyon edge, and at one time had “14 saloons, 10 gambling dens, and 4 brothels” along Hell Street, and was one of the archetypal lawless towns of the “wild west” (Sonderman 2010:51). Purportedly the first law enforcement officer in Canyon Diablo was murdered within hours of taking office (Sonderman 2010) and the town was the scene of a major train robbery in 1889 (Trimble 1986:252). Soon after the bridge was completed and construction moved west along the line, Canyon Diablo was largely abandoned (Sonderman 2010).

The original wagon route through the area avoided Canyon Diablo by crossing the mouth of the canyon where it enters the Little Colorado River near Leupp, to the north (Stein 1994). Early automobile routes followed the Little Colorado from Winslow to the trading post at Tolchaco, near Leupp, before heading west-southwest to Flagstaff (Arizona Good Roads Association 1976:107-108; Rodda 1992). During the 1920s, the National Old Trails Highway was developed as the first transcontinental automobile route through the Southwest; the original route passed south of the abandoned site of Canyon Diablo to cross the canyon west of the current survey area on a concrete arch bridge that was constructed by the state in 1914–1915 (Mangum and Mangum 2008:110). This area became the focus of roadside tourist facilities.
almost immediately, and became known as “Two Guns,” although the reasons for this are unclear. Trimble (1986:250) claims that it was named for Earl “Indian” or “Two Guns” Miller, who murdered his landlord Earl Cundiff in his house, and later (after being acquitted for self-defense) developed some of the “ruins” located along the canyon rim. Sonderman (2010:51) states that Miller, a sometime Hollywood actor, leased Cundiff’s original 1924 trading post in 1925, which he named Fort Two Guns after a film starring a friend. Regardless of the origin of the name, Miller’s murder of Cundiff, and subsequent conviction for desecrating Miller’s tombstone (which stated that he had been “murdered by Indian Miller”), plus the notoriety of Canyon Diablo, made the location an important stop on the National Old Trails Highway and Route 66. The Meteor Crater, Ariz. USGS topographic quadrangle depicts numerous ruins along the edges of Canyon Diablo at Two Guns. These include Miller’s “Apache Death Cave” complex, other replica Indian ruins, and the remains of the 1963 gas station, trading post and motel built by Benjamin Dreher, that burned catastrophically in 1971 (Sonderman 2010:52-53). The National Old Trails Highway was designated as part of Route 66 in 1926 (Scott and Kelly 1988).

Route 66 initially consisted of a series of locally maintained dirt roads to which a federal highway designation was applied, linking Chicago with Los Angeles. Paving began almost immediately in some areas (Kansas, California, and Illinois (Scott and Kelly 1988:18-31) but was not completed until 1940. Route 66, which is listed on the NRHP (NRHP 2013), is recorded in the ASM site records as AZ I:15:156(ASM). The plotted location of Route 66 (Figure 3) is incorrect as shown in the aerial imagery of Figure 2. I-40 replaced Route 66 in Arizona, between 1966 and 1984, when Route 66 was formally decommissioned (NPS 1996).
SURVEY EXPECTATIONS AND RESEARCH DESIGN

The archaeological survey of Red Gap Ranch was served by previous experience in and adjacent to the survey corridor (Purcell and Greenwald 2012; Whiting et al. 2011), and by the standard requirements and expectations for projects undertaken on Arizona State lands (ASM 1993). These survey expectations can be reviewed against the project findings to evaluate the effectiveness of the inventory and the potential need for additional research or fieldwork, particularly the applicability of the existing historic contexts developed by the State Historic Preservation Office.

PRE-FIELDWORK EXPECTATIONS

As with any permitted archaeological survey, the goals of the project were to comprehensively cover all the survey area in which the ground surface was visible, identify and record archaeological sites and isolated occurrences, and evaluate these resources in terms of anticipated project impacts (if known).

To accomplish these goals, the following specific research objectives were established:

1. Identify and record all archaeological resources.
2. Distinguish between isolated archaeological finds and archaeological sites.
3. Define the spatial extent and archaeological content of all archaeological sites based on land ownership, access permissions, and/or the project scope of work.
4. Determine as specifically as possible the cultural affiliation and chronological placement of each archaeological find.
5. Propose a functional classification for each archaeological find based on what is currently known about the archaeological cultures of the region and the archaeological materials observed.
6. Evaluate the distribution of Native American sites within the context of prehistoric and/or protohistoric land use and settlement in North-Central Arizona.
7. Evaluate Historic period sites and related features within the contexts of settlement and ranching in the Little Colorado River Valley, and exploration and development of the 35th parallel transportation corridor.
SURVEY METHODS

This archaeological project consisted of three sequential tasks: (1) background research, (2) field survey, and (3) preparation of a final report. These tasks are described below.

TASK 1. BACKGROUND RESEARCH

Prior to fieldwork, WestLand archaeologists conducted an archaeological overview of the project area and its immediate environs. Specifically, WestLand archaeologists reviewed existing archaeological information in the ASM online AZSITE database, at Museum of Northern Arizona, at the Archaeology Laboratory of Northern Arizona University, and the Navajo Nation Historic Preservation Department. A study area was defined that was larger than the project area that included the entire Red Gap Ranch property and a surrounding 1.6-km (1-mile) buffer (see Tables 1 and 2; Figure 3). The AZSITE database is supposed to contain all the documented information about each site, but clearly does not; facsimiles of the original paper site forms for all sites plotted within the current survey area were obtained through AZSITE. Previously recorded sites within the survey area were plotted on field maps for relocation and re-assessment during the field survey. This review also encompassed the ARHP and the NRHP, and a review of historical GLO plat maps and USGS topographic maps for historical features.

TASK 2. FIELD SURVEY

WestLand’s survey methods were influenced by the nature of the expected archaeological resources and the character of the landscape. The WestLand archaeological field crew conducted a pedestrian archaeological survey within the survey area. Crew members started at a common point and walked transects spaced 10 m from the centerline of the proposed pipeline and existing road rights-of-way to cover 120 feet (60 m). To ensure comprehensive coverage of the survey area, handheld GPS units with track recording were used by each member of the survey team. Existing well locations and the proposed water treatment plant were inventoried as blocks, with surveyors aligned abreast at 20-m intervals on the UTM grid and walking parallel transects back and forth across the survey area until the entire area had been examined for archaeological resources.

Based on the surface exposure of Moenkopi Sandstone across significant portions of the survey area, WestLand expected to find relatively few cultural resources. Thus the field methods focused on collecting basic information about the individual artifacts, features, and sites, including their age, cultural affiliation, associated material culture, and presumed function. Basic metrical data were also recorded. Survey methods also influenced by the expectation that sites, particularly Historic period sites, are often masked or obscured by modern ongoing use. Archaeologists reviewed historical maps and aerial photographs prior to the field survey to identify Historic period features on the landscape that might still exist as archaeological sites. These potential finds were “ground-proofed” by the archaeological survey team.

Field observations were recorded on standardized forms and later entered into WestLand’s Archaeological Information Management System for analysis.
ASM Site Criteria

Evidence of past human activities exists on the landscape in objects, sites, districts, buildings, and structures. The archaeological survey initially identified two types of resources: archaeological artifacts and archaeological features. The former category consists of individual portable objects on the landscape; the latter consists of a variety of archaeological resources, from clusters of two or more objects in close proximity to one another, to more substantial debris scatters and non-portable purposeful constructions, excavations, and deposits.

Every archaeological resource encountered was mapped and recorded, including individual artifacts, individual features, artifact scatters with or without features, and groupings of features. The ASM provides guidelines that identify what is minimally considered an archaeological site. An archaeological site is a special subset of archaeological features that meets at least the minimum criteria. Upon initial discovery of an archaeological artifact or feature, archaeologists would converge on that find to determine whether other associated archaeological materials were present. If the find was an individual occurrence, it was classified as an isolated artifact, feature, or artifact scatter and documented accordingly. Its location was mapped and its characteristics were recorded on field forms.

If multiple artifacts or features were found, the following ASM guidelines (1995) were applied to determine whether the archaeological find should be designated and recorded as an archaeological site. According to the ASM, a site is any:

1. Physical remains of past human activity that are at least 50 years old.
   Additionally, sites should consist of at least one of the following:

2. 30+ artifacts of a single class (i.e., 30 sherds, 30 lithics, 30 tin cans) within an area 15 m (50 ft) in diameter, except when all pieces appear to originate from a single source (i.e., one ceramic pot, one core, one glass bottle).

3. 20+ artifacts which include at least 2 classes of artifact types (i.e., sherds, ground stone, nails, glass) within an area 15 m (50 ft) in diameter.

4. One or more archaeological features in temporal association with any number of artifacts.

5. Two or more temporally associated archaeological features without artifacts.

All resources satisfying these minimum criteria were designated as archaeological sites and recorded as specified in the ASM site recording manual (ASM 1993). Archaeological features that did not meet these criteria, including single-episode historical trash dumps, were designated as isolated features and recorded accordingly (Sullivan and Griffith 2005). Many of the sites present within Red Gap Ranch, both previously recorded and newly identified, are lithic-procurement sites of highly variable artifact density, which often contain areas that do not strictly meet the ASM site criteria. These are extensive rather than intensive in usage, and represent purposeful use of the landscape at a level above accidental loss (Keller and Wilson 1976). These “Tolchaco Gravel” sites (after the area of the Little Colorado River Valley in
which they were discovered [Bartlett 1943]), are a well-known archaeological site type unique to the region. Spurr (2005:79) suggests a minimum density of 1 artifact per 10 m² to be used as a criterion for site definition. In many instances, however, the large scale of the deposits precludes quantifying the artifact density on survey, so the edges of continuous scatters of artifacts were recognized as both the characteristic distinguishing isolates from sites, and the site boundaries. Fortunately, as shown in Table 3, sites and IOs represent readily distinguishable nodes of activity on the landscape; IOs are individual lost artifacts or scatters of fewer than ten (10) artifacts, while sites are continuous, extensive scatters, often directly associated with geologic gravel deposits.

Site recording generated the following records: written descriptions, artifact analyses, photographs, and electronic data collection with a Trimble Geoexplorer. A primary site datum (PSD) marked with an aluminum tag was placed at the newly documented sites and previously documented sites if the existing site datum could not be located. Site datums were not placed on some of the larger artifact scatters or at Red Gap Ranch, as these provided no aid in locating the site for future reference. UTM coordinates were electronically recorded for each PSD with sub-meter accuracy and initialized to the NAD83 CONUS datum. Site boundaries were established by the distribution of artifacts and features. Within each archaeological site, the locations of the features and diagnostic tools were mapped. For each newly discovered site, an ASM site number was obtained from the ASM Site Files Office (University of Arizona, Tucson) and an ASM site card was completed and returned to the ASM for entry into their site files records and database (AZSITE).

Site Types

The sites identified during the field survey were classified into site types based on the recorded features and observed artifacts at each site. The site types observed during the current survey are dominated by two types: Tolchaco gravel lithic-procurement sites, and historical linear rights-of-way. Eighteen sites are attributable to prehistoric and/or Protohistoric utilization of natural deposits of ancient stream-rounded cobbles of very high-quality cherts and quartzite, known as the Tolchaco gravels formation. Eleven sites are linear historical utilities, including 8 roads, 2 powerlines, and 1 telephone line. Other sites include a ranch (Red Gap Ranch), 3 trash dumps, a historical roadside commercial property, 3 rock alcove sites, and one sherd and lithic scatter. In an attempt to identify the cultural and temporal affiliation of the sites, the artifact assemblage at each site was recorded in detail when possible.

Artifact and Feature Documentation

All non-site archaeological artifacts, artifact scatters, and isolated features were designated as isolated occurrences. By definition, an object or feature is considered archaeological when it is more than 50 years old. Many artifacts of glass, metal, and synthetic materials lack diagnostic characteristics to indicate their age. Because these are abundant in areas around modern settlements and in areas frequently visited for hunting, camping, and other forms of recreation, it is impractical to map and record all glass, metal, and synthetic materials. Furthermore, the historical alignments of Route 66 (1936–1966) and I-40 (1966–present) form the southern edge of the survey area, which consequently contains abundant roadside trash associated with these travel corridors; due to the typical high winds and sparse vegetation of the region, these artifacts are often displaced hundreds of meters from the road edge. These industrial-age artifacts
were identified as isolated archaeological resources only when clear diagnostic evidence established that they were over 50 years old. The location of each isolated archaeological find was recorded with a handheld GPS unit. To the extent possible, the isolated finds were categorized into conventional typological categories and attributed to an archaeological culture and chronological period.

Data were consistently collected, regardless of whether an artifact or feature was associated with a site or considered an isolate. Artifacts were described and classified into rudimentary typological categories based on material, form, and manner of decoration. Diagnostic artifacts were drawn or photographed. Stone artifacts were initially assigned to one of four categories: flaked stone, battered stone, ground stone, or fire-affected. Flaked stone artifacts were further categorized as either debitage or tools. Lithic raw material types were recorded for all observed pieces of flaked and ground stone, if possible. Stone tools were classified to basic quasi-functional-descriptive categories such as biface, projectile point, flaked tool, pebble tool, core/tool, mano, metate, or indeterminate. Additional comments were recorded about whether the tool might have been a scraper, denticulate, handstone, mano, slab metate, basin metate, or trough metate. Glass, metal, and other industrial-made artifacts were similarly classified. Key diagnostic traits were recorded and any diagnostic markings or embellishments were photographed, sketched, or transcribed.

Archaeological features were documented in a consistent manner whether or not they were associated with a site or occurred as isolates. Features were classified into descriptive and quasi-functional categories. They were also described and measured. Descriptions included notes on the form, composition, material, and construction technique. Most features were photographed except when vegetation or other impediments prevented archaeologists from doing so, or when transcription provided adequate documentation, as with historical survey markers and benchmarks.

**Task 3. Final Report**

This final report of the site files and records search and field investigation has been prepared in accordance with the reporting standards established by the ASM in Archaeological Site Recording Manual Version 1.1 (ASM 1993). The content of this report meets the requirements of the Arizona State Historic Preservation Office (SHPO), including the recently (2012) revised standards for documents submitted for SHPO review in compliance with historic preservation laws.
SURVEY FINDINGS

WestLand’s field survey identified 38 archaeological sites, 17 isolated features, 89 artifact scatters, and 55 isolated artifacts (161 isolated occurrences in total) (Table 3; Figures 4 [a–c] [map pockets]).

Table 3. Isolated occurrences within the survey area

<table>
<thead>
<tr>
<th>Field No.</th>
<th>Era</th>
<th>Size (m)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Historic</td>
<td>40 × 20</td>
<td>Single episode trash dump, containing 249 glass shards from an MNI of 6 vessels, 1 earthenware sherd from a plate or saucer, and 6 metal artifacts. The glass artifacts were the remains of 1 brown bleach jug (“Latchford-Marble Glass Company maker’s mark / PUREX / 7 / DES PAT APPL’D”), 1 clear tumbler, 1 clear jar (“LIOTION”), 1 clear bleach bottle (“1939–1957 Latchford-Marble Glass Company maker’s mark [Toulouse 2001:332] / PUREX, 1 clear crown finish bottle, and 1 clear bottle with fully stippled base and Owens-Illinois Glass Company manufacturing code for 1944 (Toulouse 2001). The sherd has a multi-colored floral underglaze transfer print design, and unidentified partial maker’s mark. One worn horseshoe and five single-serving size sanitary cans are the metal assemblage.</td>
</tr>
<tr>
<td>5</td>
<td>Prehistoric</td>
<td>–</td>
<td>Side-notched arrow point made from Government Mountain obsidian, missing only the tip. Point measures 17 mm in length, 15 mm in width, and 3 mm in thickness (Photo 2).</td>
</tr>
<tr>
<td>6</td>
<td>Historic</td>
<td>25 × 10</td>
<td>A piece of galvanized sheet metal, a 55-gallon drum, 1 single-serving size sanitary can, 2 shards of opalized pale blue flat glass, and 1 clear bottle base embossed with the 1929–1954 Owens-Illinois Glass Company maker’s mark and date code 2 or 4 (most likely 1932 or 1934 as the base is not stippled; Whitten 2013).</td>
</tr>
<tr>
<td>12</td>
<td>Historic</td>
<td>–</td>
<td>A piece of 5/8-inch rebar set in the ground (6 inches high) with 2 sandstone chunks on each side and a necked-down rifle cartridge case with headstamp “U.S.C. Co. / 18” (1868–1935 [Goodman and Gilpin 2005:162]).</td>
</tr>
<tr>
<td>13</td>
<td>Prehistoric</td>
<td>–</td>
<td>Distal fragment of an early-stage biface of Little Colorado River (LCR) chert, measuring 36 mm in length, 40 mm wide and 9 mm thick.</td>
</tr>
<tr>
<td>15</td>
<td>Prehistoric</td>
<td>–</td>
<td>Bifacially tested chert cobbles with more than 8 flake scars.</td>
</tr>
<tr>
<td>16</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 LCR chert erraillure flake.</td>
</tr>
<tr>
<td>19</td>
<td>Historic</td>
<td>–</td>
<td>A chunk of coal, possibly from historical use of coal to power locomotives on the AT&amp;SF Railroad to the south (1881–1960s).</td>
</tr>
<tr>
<td>21</td>
<td>Historic</td>
<td>–</td>
<td>Thrown horse shoe, embossed “DIAMOND / HOT FORGED” at the toe, with “OPE—” on one branch and “650” on the other.</td>
</tr>
<tr>
<td>22</td>
<td>Prehistoric</td>
<td>–</td>
<td>A chalcedony core fragment with some repatinated surfaces, and a chalcedony tertiary flake.</td>
</tr>
</tbody>
</table>
### Table 3. Isolated occurrences within the survey area

<table>
<thead>
<tr>
<th>Field No.</th>
<th>Era</th>
<th>Size (m)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Historic</td>
<td>–</td>
<td>3 shards from an SCA glass insulator, near edge of the AZ J:13:30(ASM) right-of-way (1880–1920 [Firebaugh 1983]).</td>
</tr>
<tr>
<td>24</td>
<td>Historic</td>
<td>–</td>
<td>A sheet metal barrel hoop, joined with two rivets and with one edge rolled to form a lip, measuring 7/8 inches wide and approximately 33 inches in diameter. Beneath AZ J:13:30(ASM).</td>
</tr>
<tr>
<td>25</td>
<td>Prehistoric</td>
<td>–</td>
<td>Heat-treated LCR chert biface lateral fragment that was removed as an overshot flake, possibly to eliminate an inclusion on the biface edge.</td>
</tr>
<tr>
<td>26</td>
<td>Mixed</td>
<td>40 × 40</td>
<td>3 Government Mountain obsidian tertiary flakes and 1 prismatic quartz crystal with two negative flake scars in 25 m diameter, 1 crushed aluminum 12-oz. can, 1 single-serving sanitary can, and 1 208 × 204 evaporated milk can (Simonis 1997 does not date this size can).</td>
</tr>
<tr>
<td>29</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 chert tertiary flake.</td>
</tr>
<tr>
<td>30</td>
<td>Historic</td>
<td>–</td>
<td>A 5-gallon bucket with residual tar/bitumen and the base embossed &quot;BENNETT INDUSTRIES / ALTA LOMA CALIF. U.S.A. / 28228-5-66,” may have been used to coat the bases of wooden power poles for termite protection.</td>
</tr>
<tr>
<td>31</td>
<td>Historic/recent</td>
<td>–</td>
<td>1 evaporated milk can (215 × 315; Simonis 1997 Type 19 – 1930–1975).</td>
</tr>
<tr>
<td>32</td>
<td>Mixed</td>
<td>25 × 25</td>
<td>1 fossiliferous chert tertiary flake, 1 complete side-notched chalcedony arrow point made on a flake blank, measuring 32 mm in length, 11 mm wide and 3 mm thick (Photo 3), 2 group-serving size and 1 single-serving sanitary cans, and 1 motor oil quart-size can embossed “TRIANGLE BRAND.”</td>
</tr>
<tr>
<td>33</td>
<td>Historic</td>
<td>15 × 35</td>
<td>7 shards from an SCA patent medicine bottle, 1 SCA tumbler shard, 15 SCA, 3 amber, 30 thick brown, and 1 pale blue/aqua bottle shards, 1 flattened tin spice canister, 1 group-serving size sanitary can, and 1 ½-inch diameter metal pin (1880–1920; Firebaugh 1983). In sheltered outcrop north of railroad. Thick brown bottle base has partial maker’s mark of “—IGCoL / A.”</td>
</tr>
<tr>
<td>35</td>
<td>Mixed</td>
<td>20 × 5</td>
<td>1 fossiliferous chert biface-thinning flake, 1 chalcedony biface-thinning flake, 1 chert tertiary flake, 1 pudding stone (silicified conglomerate) tertiary flake, and 2 SCA bottle shards (1880–1920; Firebaugh 1983).</td>
</tr>
<tr>
<td>37</td>
<td>Historic</td>
<td>–</td>
<td>11 shards of pale blue/aqua glass (2 from an insulator, 9 from a 12-oz. bottle), a shotshell base marked “U / No. 20 / S / CLIMAX” (1864–1911; Goodman 1998) a cartridge case “W. R. A. Co. / 32 W. H. . V. M .92” (1866–present; Goodman 1998) and an unmarked .22 caliber short rimfire cartridge case.</td>
</tr>
<tr>
<td>38</td>
<td>Historic</td>
<td>–</td>
<td>5 lb. lard pail embossed “ARMOUR-CUDAHY PACKING / 00 / REFINED FAMILY LARD / OMAHA, NEB.”</td>
</tr>
<tr>
<td>39</td>
<td>Prehistoric</td>
<td>20</td>
<td>2 LCR chert secondary flakes</td>
</tr>
<tr>
<td>40</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 chert tertiary flake distal fragment</td>
</tr>
<tr>
<td>Field No.</td>
<td>Era</td>
<td>Size (m)</td>
<td>Comments</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>----------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>41</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 dark gray quartzite secondary flake distal fragment</td>
</tr>
<tr>
<td>42</td>
<td>Historic</td>
<td>–</td>
<td>GLO survey marker on iron post in large cairn of limestone boulders, dated 1917; common corner of Sections 20, 21, 29, and 28.</td>
</tr>
<tr>
<td>43</td>
<td>Historic</td>
<td>–</td>
<td>.22 caliber short rimfire cartridge case with headstamp “PETERS / HV” (1887–1934; Goodman and Gilpin 2005)</td>
</tr>
<tr>
<td>44</td>
<td>Prehistoric</td>
<td>–</td>
<td>White chert tertiary flake – very patinated.</td>
</tr>
<tr>
<td>45</td>
<td>Historic</td>
<td>–</td>
<td>Low brass shotshell base with headstamp “REM – UMC / № 12 / NITRO CLUB” and ‘REMINGTON – UMC” embossed around the shaft (1911–1934; Goodman and Gilpin 2005:160).</td>
</tr>
<tr>
<td>46</td>
<td>Historic</td>
<td>–</td>
<td>Shotshell base with headstamp “PETERS / [P-around primer] / MADE IN USA / 20 / HV” (1887–1934; Goodman and Gilpin 2005:160; Standler 2006 asserts that the Peters brand remained in manufacture by Remington until the late 1960s)</td>
</tr>
<tr>
<td>47</td>
<td>Historic</td>
<td>15 x 5</td>
<td>High brass shotshell base (exploded) with headstamp “WESTERN / № 12 / SUPER-X” (1940s–1960s; Standler 2006) within a scatter of 30 shards from broken returnable “Coke” bottles</td>
</tr>
<tr>
<td>49</td>
<td>Prehistoric</td>
<td>–</td>
<td>Distal fragment of a well-made tan/yellow chert late stage biface, measuring 38 mm in length, 30 mm in width, and 6 mm thick.</td>
</tr>
<tr>
<td>50</td>
<td>Prehistoric</td>
<td>–</td>
<td>Distal fragment of a Government Mountain obsidian biface, possibly a dart point, with both surfaces mechanically weathered; non-diagnostic.</td>
</tr>
<tr>
<td>51</td>
<td>Historic</td>
<td>–</td>
<td>The base and 1 body shard from a broken brown returnable bottle; base is fully stippled and embossed “BB 2130 / Duraglas / 6 [Owens-Illinois maker’s mark] 2* / 29” (1942; Lockhart 2006)</td>
</tr>
<tr>
<td>52</td>
<td>Historic</td>
<td>–</td>
<td>Cairn of tabular limestone boulders 4 courses (45 cm) high, measuring 160 x 125 cm</td>
</tr>
<tr>
<td>53</td>
<td>Mixed</td>
<td>25 x 15</td>
<td>6 LCR chert flakes (2 primary, 1 secondary, 1 tertiary and 2 biface-thinning), 1 shotshell base marked “.410,” and 1 .22 short rimfire cartridge case “HI / U / SPEED” (1945–present; Goodman 1998)</td>
</tr>
<tr>
<td>54</td>
<td>Historic</td>
<td>–</td>
<td>10 shards from a bright green “7-UP” Applied Color Label (ACL) pop bottle with base embossed “20 [post-1954 Owens-Illinois maker’s mark] 57 / 2c / Duraglas / 2585-G” (manufactured 1957; Lockhart 2006), and a shotshell base marked “REMINGTON / № 12 / EXPRESS” (1934–1964; Goodman and Gilpin 2005)</td>
</tr>
<tr>
<td>55</td>
<td>Historic</td>
<td>10 X 5</td>
<td>2 pale blue/aqua bottle body shards and 1 clear liquor flask base with an Owen’s scar and embossed “R 211 / 88 [1929–1954 Owens-Illinois Glass Company maker’s mark (Toulouse 2001)] 4”; probably 1934, given the absence of stippling (Lockhart 2006)</td>
</tr>
<tr>
<td>56</td>
<td>Historic</td>
<td>25 x 5</td>
<td>Steel hand tool hardware (joins a wooden handle with an implement head), approximately 70 shards from 2 brown bottles with the Anchor-Hocking maker’s mark (1938–1980; Lockhart et al. 2013) and crown finish, and 1 clear body shard with ”FEDERAL LAW FORBIDS ...” embossed (1934–1964; Lockhart et al. 2013).</td>
</tr>
<tr>
<td>57</td>
<td>Mixed</td>
<td>10</td>
<td>1 poor-quality chert tertiary flake and a clear threaded-finish flask with an illegible base.</td>
</tr>
<tr>
<td>58</td>
<td>Prehistoric</td>
<td>–</td>
<td>A fossiliferous chert tested cobble and secondary flake of LCR chert</td>
</tr>
<tr>
<td>59</td>
<td>Prehistoric</td>
<td>–</td>
<td>A white chert tertiary flake</td>
</tr>
</tbody>
</table>
Table 3. Isolated occurrences within the survey area

<table>
<thead>
<tr>
<th>Field No.</th>
<th>Era</th>
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<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>Historic</td>
<td>75 × 35</td>
<td>A single-episode trash dump that contains 247 glass shards from an MNI of 17 vessels, 1 fire brick, and 314 metal items. The glass derives from 3 brown bottles, 2 clear ACL bottles (1938–1960s), and at least 12 clear bottles (2 with the 1920–1964 Hazel-Atlas maker’s mark [Toulouse 2001]). 55 shards of flat glass are also present. Most of the metal is identifiable fragments (~200), wire common nails (n=56), single-serving sanitary cans (n=13), ammunition (n=13), and hole-in-cap cans (n=9). Also present are 2 irrigation pipe fixtures, 2 coffee cans, 5 can scraps, 1 lidded can, 1 square can, a paint can, 4 auto parts (a door with wooden frame, a “DELCO” distributor, springs, and a door handle), barbed wire fragment, 1 lid, 1 flattop steel beer cans, and a bucket. 2 cartridge cases marked “SUPER-X” were made by Western Cartridge Company between the 1940s and 1960s (Stadler 2006). 2 chert tertiary flakes, 20 pieces of tire rubber, and a piece of milled lumber are also present.</td>
</tr>
<tr>
<td>61</td>
<td>Historic</td>
<td>15 × 5</td>
<td>2 steel 12-oz. flattop beer cans (1935–1963; Maxwell 2000), 10 shards from a clear wide mouth jar, and 5 shards from a brown recent beer bottle</td>
</tr>
<tr>
<td>62</td>
<td>Prehistoric</td>
<td>1 × 1</td>
<td>1 chalcedony tertiary flake distal fragment, 1 government Mountain obsidian dart point distal fragment with sand-blasted surfaces</td>
</tr>
<tr>
<td>63</td>
<td>Prehistoric</td>
<td>3 × 3</td>
<td>2 secondary flakes of very fine-grained black quartzite</td>
</tr>
<tr>
<td>64</td>
<td>Prehistoric</td>
<td>–</td>
<td>3 LCR chert flakes (1 primary, 1 secondary, and 1 tertiary)</td>
</tr>
<tr>
<td>65</td>
<td>Historic</td>
<td>–</td>
<td>Cairn of 8 tabular limestone cobbles, measuring 160 × 125 cm and 10 cm in height; on edge of road</td>
</tr>
<tr>
<td>67</td>
<td>Historic</td>
<td>–</td>
<td>Shotshell base “REMINGTON EXPRESS / 410” (post-1911; Goodman and Gilpin 2005:169; but more likely after 1934)</td>
</tr>
<tr>
<td>68</td>
<td>Prehistoric</td>
<td>–</td>
<td>LCR chert biface-thinning flake</td>
</tr>
<tr>
<td>69</td>
<td>Prehistoric</td>
<td>30 × 30</td>
<td>LCR chert scatter: 1 tested cobble, 1 formal unidirectional core, 1 unifacial sidescraper, 1 early-stage biface, and 4 debitage (1 primary flake fragment, 2 secondary, and 1 tertiary)</td>
</tr>
<tr>
<td>72</td>
<td>Prehistoric</td>
<td>–</td>
<td>Informal core/tested cobble of LCR chert, measuring 5.7 × 5.7 × 2.7 cm</td>
</tr>
<tr>
<td>73</td>
<td>Prehistoric</td>
<td>3</td>
<td>2 LCR chert flakes (1 secondary, 1 tertiary)</td>
</tr>
<tr>
<td>74</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 Presley Wash obsidian secondary flake</td>
</tr>
<tr>
<td>76</td>
<td>Historic</td>
<td>–</td>
<td>GLO survey marker on iron post in large cairn of sandstone slabs, dated 1917; common corner of Sections 22, 23, 27, and 26.</td>
</tr>
<tr>
<td>77</td>
<td>Prehistoric</td>
<td>15</td>
<td>2 LCR chert primary flakes (1 whole, 1 broken)</td>
</tr>
<tr>
<td>78</td>
<td>Historic</td>
<td>5 × 5</td>
<td>3 shards of SCA bottle glass (1880–1920; Firebaugh 1983)</td>
</tr>
<tr>
<td>83</td>
<td>Historic</td>
<td>–</td>
<td>High brass shotshell base with decorative embossed banding on shaft and headstamp “XTRA-RANGE / № 12 / J.C. HIGGINS.” J.C. Higgins was a Sears &amp; Roebuck house brand 1908–1961, with firearms made 1946–1961 (Sears &amp; Roebuck 2013; Wikipedia 2013).</td>
</tr>
</tbody>
</table>
Table 3. Isolated occurrences within the survey area

<table>
<thead>
<tr>
<th>Field No.</th>
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</thead>
<tbody>
<tr>
<td>84</td>
<td>Historic</td>
<td>20 × 15</td>
<td>Single episode trash dump that also includes 2 fossiliferous chert flakes (1 biface-thinning and 1 tertiary) and 5 LCR chert flakes (2 secondary, 2 tertiary and 1 biface-thinning). The dump consists of 86 shards from an MNI of 9 glass vessels, 2 undecorated earthenware sherds (1 cup/bowl and 1 plate), and 5 metal items. Glass vessels include 1 milk, 1 blue (n=2), 1 green (n=7), 1 brown (n=6) and 5 clear (n=70). The brown bottle has a wide prescription finish but no markings. The clear vessels include a pitcher, 6 flat shards, 1 crown finish bottle, 1 threaded bottle, 1 jug, and a patent medicine. The metal artifacts are 3 single-serving sanitary cans, 1 crosn cap, and 1 round meat can. One clear bottle base is embossed with the 1929–1954 Owens-Illinois Glass Company maker’s mark and &quot;3&quot; date code (1933, 1943 or 1953; Lockhart 2006). One whole clear bottle has a 1980 manufacturing code.</td>
</tr>
<tr>
<td>86</td>
<td>Prehistoric</td>
<td>20 × 20</td>
<td>1 chert expedient core, 2 chert tertiary flakes, 1 orange chalcedony biface-thinning flake, and 1 crushed evaporated milk can</td>
</tr>
<tr>
<td>87</td>
<td>Prehistoric</td>
<td>10 × 10</td>
<td>3 LCR chert flakes (1 secondary [possibly natural], 1 tertiary, and 1 biface-thinning)</td>
</tr>
<tr>
<td>90</td>
<td>Historic</td>
<td>–</td>
<td>GLO survey marker on iron post, with low rock cairn (collapsed) 12 m to the north, dated 1917; common corner of Sections 16, 15, 21, and 22.</td>
</tr>
<tr>
<td>91</td>
<td>Mixed</td>
<td>25 × 25</td>
<td>1 chalcedony tertiary flake, 1 white chert secondary flake, 2 shotshell bases &quot;WRA 410 / MADE IN USA&quot; (after 1940 Goodman and Gilpin 2005:163) and &quot;REMINGTON / 16 GA / EXPRESS&quot; (1934–1964 Goodman and Gilpin 2005) and 1 rifle centerfire cartridge case “REM – UMC / 1906” with the end crimped (Remington and Union Metallic Cartridge Co. did not merge until 1911; UMC brand was dropped 1934; Goodman and Gilpin 2005:160)</td>
</tr>
<tr>
<td>93</td>
<td>Mixed</td>
<td>20 × 5</td>
<td>2 high brass shotshell bases, 1 with headstamp “REMINGTON / 16 GA / EXPRESS” and REMINGTON – UMC&quot; embossed around the shaft (1911–1934; Goodman 1998), and 1 “FEDERAL / № 20 / HI-POWER” (after 1916; Goodman and Gilpin 2005:160), and 1 Government Mountain obsidian tertiary flake</td>
</tr>
<tr>
<td>94</td>
<td>Prehistoric</td>
<td>–</td>
<td>A stemmed basalt dart point that is extremely weathered and wind-polished, measuring 32 mm in length, 18 mm in width, and 4 mm thick</td>
</tr>
<tr>
<td>95</td>
<td>Prehistoric</td>
<td>20 × 10</td>
<td>8 flakes of Presley Wash rhyolite (3 tertiary, 4 biface-thinning, and 1 bifacially retouched biface-thinning flake)</td>
</tr>
<tr>
<td>96</td>
<td>Prehistoric</td>
<td>20</td>
<td>1 chalcedony biface-thinning flake and a broken clear flask with threaded top, embossed “[1958–1961 Maywood Glass Company maker’s mark (Toulouse 2001)] / ROMA WINE”</td>
</tr>
<tr>
<td>97</td>
<td>Historic</td>
<td>–</td>
<td>High brass shotshell base with decorative embossed banding on shaft and headstamp “REMINGTON / 12 GA / EXPRESS” (before 1911?; Goodman and Gilpin 2005)</td>
</tr>
<tr>
<td>98</td>
<td>Mixed</td>
<td>25 X 25</td>
<td>LCR chert primary flake with expedient scraper use-wear, a .22 caliber rimfire with headstamp &quot;H&quot; (a trademark of the Winchester Repeating Arms Company since 1866 [Goodman and Gilpin 2005:163]), a broken clear glass jug, 1 sky-blue glazed earthenware bowl rim sherd, and 1 carbon battery core, all around Moenkopi sandstone outcrop</td>
</tr>
<tr>
<td>99</td>
<td>Prehistoric</td>
<td>10</td>
<td>1 chalcedony biface-thinning flake and a .22 caliber short rimfire cartridge case “F” (for the Federal Cartridge Company, since 1916 [Goodman and Gilpin 2005:163])</td>
</tr>
<tr>
<td>100</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 tan chert tertiary flake proximal fragment</td>
</tr>
<tr>
<td>101</td>
<td>Historic</td>
<td>–</td>
<td>Thrown rear horse shoe, worn (fullers nearly worn away), no caulks; large shoe</td>
</tr>
</tbody>
</table>
Table 3. Isolated occurrences within the survey area

<table>
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<th>Field No.</th>
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</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Historic</td>
<td>–</td>
<td>Whole clear half pint liquor flask with threaded finish, embossed “72 5775 L5 / LIQUOR BOTTLE / 2 D126 [1900–1982 Thatcher Manufacturing Company maker’s mark (Lockhart et al. 2007)]; the distillers registration number (D126) indicates manufacture of this bottle 1934–1964 (Lockhart et al. 2013).</td>
</tr>
<tr>
<td>103</td>
<td>Historic</td>
<td>10 × 10</td>
<td>2 shotshell bases (1 is heavily verdigris and illegible and 1 has headstamp “REM – UMC / № 12 / NITRO CLUB” [1911–1934; Goodman 1998], 1 .22 caliber short rimfire with headstamp “U” (1867–1962; Goodman and Gilpin 2005:161) and 1 thick brown bottle shard.</td>
</tr>
<tr>
<td>104</td>
<td>Historic</td>
<td>15 × 50</td>
<td>Single episode trash dump that consists of 177 glass shards from an MNI of 6 vessels, 24 sherds from 2 vessels (1 unknown form and 1 bowl), 64 metal items, and 1 graphite dry cell battery core. The glass includes 2 clear bottles, 2 brown (1 liquor bottle with 1977 date code and 1 crown cap), 1 milk (form unidentified), and 1 green returnable bottle with the Reed Glass Company maker’s mark from 1927–1956 (Toulouse 2001:432). 8 of the bowl sherds have a blue underglaze decoration; the others are undecorated. Most of the metal items are common nails (2'=38, 2½'=13, and 3'=4). Also present are 4 scraps of metal, a tin aspirin case, a hole-in-top rectangular meat can embossed “ESTAB 855,” a bimetallic can, a piece of wire, and a blob of molten aluminum.</td>
</tr>
<tr>
<td>105</td>
<td>Historic</td>
<td>40 × 5</td>
<td>3 shards from a blue glass insulator (embossed “MADE” and “U.S.A.”) and a bimetallic 12 oz beer can (1963–1980; Maxwell 2000)</td>
</tr>
<tr>
<td>108</td>
<td>Historic</td>
<td>–</td>
<td>GLO survey marker on 3 foot iron post, within a 1 ½-foot tall sandstone cairn, dated 1917; common corner of T20N, R13E, Sections 27, 26, 34, and 35.</td>
</tr>
<tr>
<td>109</td>
<td>Prehistoric</td>
<td>–</td>
<td>2 LCR chert biface-thinning flakes (1 whole and 1 distal fragment) 30 cm apart.</td>
</tr>
<tr>
<td>110</td>
<td>Prehistoric</td>
<td>6 × 2</td>
<td>1 chert biface-thinning flake fragment, 1 chalcedony tertiary flake, and 1 chert tertiary flake distal fragment.</td>
</tr>
<tr>
<td>111</td>
<td>Historic</td>
<td>30 × 30</td>
<td>A can scatter, consisting of a 1-gallon motor oil drum (embossed “SAE / 20 / 20W”), 8 1-quart motor oil cans, 3 flattop 12-oz. steel beer cans (1935–1963; Maxwell 2000), 1 214 × 314 evaporated milk can (Simonis 1997 does not date this size), and 3 single-serving sanitary cans.</td>
</tr>
<tr>
<td>112</td>
<td>Prehistoric</td>
<td>15</td>
<td>1 white chert biface-thinning flake fragment and a whole quartzite bifacial hand axe/chopper, measuring 9.8 × 9.6 × 3.4 cm, with heavy use-wear and hand polish.</td>
</tr>
<tr>
<td>113</td>
<td>Prehistoric</td>
<td>2 × 2</td>
<td>A Padre Black-on-white bowl break (1 rimsherd and 8 body sherds) (A.D. 1100–1250; Hayes-Gilpin and van Hargetsveldt 1998:105)</td>
</tr>
<tr>
<td>114</td>
<td>Prehistoric</td>
<td>5</td>
<td>1 chert tested cobble and 1 quartzite tertiary flake medial fragment</td>
</tr>
<tr>
<td>115</td>
<td>Historic</td>
<td>5 × 5</td>
<td>1 clear bottle base with Owen’s cutoff scar and 1929–1954 Owens-Illinois Glass Company maker’s mark (no date code) and 2 215 × 315 evaporated milk cans (Simonis 1997 Type 19 – 1930–1975; part of an extensive scatter of windblown cans from Route 66.</td>
</tr>
<tr>
<td>116</td>
<td>Prehistoric</td>
<td>5</td>
<td>1 LCR chert primary flake and 1 LCR biface-thinning flake distal fragment from a biface with parallel flaking.</td>
</tr>
<tr>
<td>117</td>
<td>Prehistoric</td>
<td>40 × 40</td>
<td>1 chert biface-thinning flake fragment, 1 quartzite secondary flake, 1 chert secondary flake, 1 chalcedony tertiary flake, and 1 quart motor oil can</td>
</tr>
<tr>
<td>119</td>
<td>Prehistoric</td>
<td>–</td>
<td>A proximal fragment of an intermediate stage biface of pink/red chert, measuring [24 mm in length], 40 mm in width, and 10 mm in thickness</td>
</tr>
<tr>
<td>120</td>
<td>Historic</td>
<td>–</td>
<td>High brass shotshell base with headstamp “REMINGTON / 16 GA / EXPRESS” with “REMINGTON – UMC” embossed on the shaft (1911–1934; Goodman and Gilpin 2005)</td>
</tr>
</tbody>
</table>
Table 3. Isolated occurrences within the survey area

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>121</td>
<td>Historic</td>
<td>3.5</td>
<td>Hole-in-cap food can with the bottom cut out and a .22 caliber short rimfire cartridge case with headstamp &quot;SUPER [over] X&quot; (since 1900; Goodman 1998)</td>
</tr>
<tr>
<td>122</td>
<td>Historic</td>
<td>–</td>
<td>.22 caliber short rimfire cartridge case with headstamp &quot;U&quot; (1867–1962; Goodman and Gilpin 2005)</td>
</tr>
<tr>
<td>160</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 LCR chert bifacial core, measuring 5.1 × 4.0 × 2.0 and 3 tested cobbles</td>
</tr>
<tr>
<td>166</td>
<td>Prehistoric</td>
<td>1 × 1</td>
<td>LCR chert scatter, consisting of: 1 tested cobble and 4 flakes (2 primary and 2 secondary)</td>
</tr>
<tr>
<td>167</td>
<td>Prehistoric</td>
<td>–</td>
<td>A LCR chert early-stage biface later re-used as a core, measuring 5.9 × 4.0 × 2.8 cm</td>
</tr>
<tr>
<td>168</td>
<td>Prehistoric</td>
<td>–</td>
<td>A LCR chert early-stage biface / core, measuring 6.5 × 4.6 × 2.2 cm, with the edges retouched and used as a denticulate scraper</td>
</tr>
<tr>
<td>169</td>
<td>Prehistoric</td>
<td>5 × 5</td>
<td>2 secondary flakes and 1 tested cobble of LCR chert</td>
</tr>
<tr>
<td>170</td>
<td>Prehistoric</td>
<td>–</td>
<td>LCR chert scatter consisting of 1 tested cobble and 2 primary flakes</td>
</tr>
<tr>
<td>179</td>
<td>Historic</td>
<td>10 × 15</td>
<td>Single episode trash dump: 5 upright pocket tobacco tins, 3 crushed evaporated milk cans, 3 whiteware bowl sherds, 80 shards from a broken clear bottle with the cap wired to a patent-medicine style finish (no maker’s mark), a milled lumber fragment with a wire nail, and 1 LCR chert primary flake</td>
</tr>
<tr>
<td>181</td>
<td>Historic</td>
<td>25 × 15</td>
<td>Single episode trash dump: 75 whiteware sherds from at least 3 vessels (1 undecorated, 1 with transfer print and 1 decal), 4 amethyst pressed glass shards, ~120 clear glass sherds from 1 jug and at least 1 bottle (maker’s mark of castle or penis / 95), a heavy metal grate, 1 evaporated milk can, 1 upright pocket tobacco tin, an exhaust pipe fragment, 1 crushed galvanized bucket, 1 crown cap, 1 steel steamer trunk corner hardware, and 3 single-serving sanitary cans.</td>
</tr>
<tr>
<td>183</td>
<td>Historic</td>
<td>–</td>
<td>A bimetallic beverage thermos, with aluminum mouth piece and steel body; in drainage leadout</td>
</tr>
<tr>
<td>196</td>
<td>Prehistoric</td>
<td>1</td>
<td>2 LCR chert biface-thinning flakes</td>
</tr>
<tr>
<td>197</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 primary flake and 1 biface-thinning flake of LCR chert in 50 cm diameter</td>
</tr>
<tr>
<td>202</td>
<td>Historic</td>
<td>–</td>
<td>GLO survey marker on iron post, dated 1917; common corner of T20N, R13E, Sections 30 and 31.</td>
</tr>
<tr>
<td>203</td>
<td>Historic</td>
<td>–</td>
<td>GLO survey marker on iron post, dated 1917; common corner of T20N, R13E, Sections 25 and 36.</td>
</tr>
<tr>
<td>204</td>
<td>Prehistoric</td>
<td>–</td>
<td>Secondary flake of LCR chert</td>
</tr>
<tr>
<td>205</td>
<td>Prehistoric</td>
<td>40 × 40</td>
<td>LCR chert scatter: 3 cobble cores (2 bifacial and 1 amorphous), 1 cobble uniface scraper, and 11 flakes (6 primary, 4 secondary, and 1 biface-thinning)</td>
</tr>
<tr>
<td>206</td>
<td>Prehistoric</td>
<td>–</td>
<td>9 LCR chert flakes (5 primary, 3 secondary, 1 tertiary)</td>
</tr>
<tr>
<td>207</td>
<td>Historic</td>
<td>–</td>
<td>GLO survey marker on iron post, dated 1917; ¼ section of T20N, R13E, Section 31.</td>
</tr>
<tr>
<td>208</td>
<td>Historic</td>
<td>–</td>
<td>GLO survey marker on iron post, dated 1917; ¼ section of T20N, R13E, Section 36.</td>
</tr>
<tr>
<td>209</td>
<td>Prehistoric</td>
<td>5</td>
<td>1 LCR chert tertiary flake with lateral margin saw/cut use-wear and 1 LCR chert biface-thinning flake</td>
</tr>
<tr>
<td>210</td>
<td>Prehistoric</td>
<td>20 × 20</td>
<td>4 small flakes of LCR chert (1 secondary and 3 tertiary)</td>
</tr>
<tr>
<td>211</td>
<td>Prehistoric</td>
<td>10 × 10</td>
<td>3 LCR chert biface-thinning flakes (2 whole and 1 fragment)</td>
</tr>
<tr>
<td>212</td>
<td>Historic</td>
<td>9 × 3</td>
<td>Foundation to a demolished billboard, consisting of 7 poured concrete footers: 4 are square (36 × 32 inches) with post molds for milled 4 × 4 and 2 × 6 posts, with finished surfaces, and 3 irregular footers in line to the west that anchored support braces. Faced westbound traffic on Route 66/I-40.</td>
</tr>
</tbody>
</table>
### Table 3. Isolated occurrences within the survey area

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<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>213</td>
<td>Historic</td>
<td>8.5 × 2</td>
<td>Foundation to demolished billboard, consisting of four irregular poured (unfinished) footers with sandstone chunks and 4 × 6 post molds; rebar and wire braced the billboard, which faced westbound traffic on Route 66/I-40.</td>
</tr>
<tr>
<td>214</td>
<td>Prehistoric</td>
<td>20</td>
<td>LCR chert early-stage biface and primary flake</td>
</tr>
<tr>
<td>215</td>
<td>Historic</td>
<td>8.5 × 2</td>
<td>Foundation to demolished billboard, consisting of four irregular poured (unfinished) footers with sandstone chunks and 4 × 6 post molds; rebar and wire braced the billboard, which faced westbound traffic on Route 66/I-40.</td>
</tr>
<tr>
<td>217</td>
<td>Prehistoric</td>
<td>30 × 30</td>
<td>5 LCR chert flakes (3 secondary, 2 tertiary)</td>
</tr>
<tr>
<td>218</td>
<td>Mixed</td>
<td>40 × 40</td>
<td>LCR chert scatter (5 cores, 1 tested cobble, 5 primary flakes, and 3 secondary flakes) and two rifle cartridge cases with headstamp “U.M.C. / .30-30” (1867–1902; Goodman and Gilpin 2005:160)</td>
</tr>
<tr>
<td>219</td>
<td>Mixed</td>
<td>5</td>
<td>1 LCR chert secondary flake and a catch to a sheet metal box or canister (such as a tackle box or lunch pail)</td>
</tr>
<tr>
<td>220</td>
<td>Prehistoric</td>
<td>3</td>
<td>2 LCR chert flakes (1 secondary and 1 tertiary)</td>
</tr>
<tr>
<td>221</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 large LCR chert secondary flake</td>
</tr>
<tr>
<td>222</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 LCR chert secondary flake</td>
</tr>
<tr>
<td>224</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 LCR chert secondary flake in recently bladed pad</td>
</tr>
<tr>
<td>225</td>
<td>Prehistoric</td>
<td>25 × 35</td>
<td>LCR chert scatter: 1 tested cobble and 9 flakes (5 primary, 2 secondary, and 2 tertiary)</td>
</tr>
<tr>
<td>228</td>
<td>Historic</td>
<td>78 × 51</td>
<td>Paved circular drive, now bisected by the I-40 frontage road, but probably associated with Route 66. 10 feet in width with no associated features or artifacts.</td>
</tr>
<tr>
<td>230</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 LCR chert secondary flake along the I-40 right-of-way fence</td>
</tr>
<tr>
<td>231</td>
<td>Prehistoric</td>
<td>30 × 30</td>
<td>Scatter of 5 LCR chert flakes (1 primary, 4 secondary) and 1 quartzite secondary flake; bisected by I-40 frontage road</td>
</tr>
<tr>
<td>232</td>
<td>Prehistoric</td>
<td>15 × 5</td>
<td>LCR chert scatter along I-40 right-of-way fence: 1 core, 1 biface, 1 tested cobble, and 2 primary flakes</td>
</tr>
<tr>
<td>234</td>
<td>Prehistoric</td>
<td>–</td>
<td>2 LCR chert flakes (1 primary and 1 secondary)</td>
</tr>
<tr>
<td>235</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 LCR chert secondary flake</td>
</tr>
<tr>
<td>236</td>
<td>Prehistoric</td>
<td>–</td>
<td>2 LCR chert secondary flakes</td>
</tr>
<tr>
<td>237</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 quartzite tertiary flake</td>
</tr>
<tr>
<td>238</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 LCR chert secondary flake and 1 LCR chert biface-thinning flake with lateral margin saw/cut use-wear</td>
</tr>
<tr>
<td>239</td>
<td>Prehistoric</td>
<td>–</td>
<td>LCR chert primary flake</td>
</tr>
<tr>
<td>240</td>
<td>Prehistoric</td>
<td>–</td>
<td>LCR chert primary flake</td>
</tr>
</tbody>
</table>
Table 3. Isolated occurrences within the survey area

<table>
<thead>
<tr>
<th>Field No.</th>
<th>Era</th>
<th>Size (m)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>285</td>
<td>Prehistoric</td>
<td>4 × 5</td>
<td>3 primary and 1 secondary flake of LCR chert, and 1 tertiary flake of low-quality chert</td>
</tr>
<tr>
<td>286</td>
<td>Prehistoric</td>
<td>30 × 30</td>
<td>LCR chert scatter of 3 primary, 4 secondary, and 1 tertiary flakes, and 1 tertiary flake of low-quality chert</td>
</tr>
<tr>
<td>287</td>
<td>Prehistoric</td>
<td>–</td>
<td>A burned dart point (Gypsum?) of white chert, measuring 29 mm long × 22 mm wide × 4 mm thick</td>
</tr>
<tr>
<td>288</td>
<td>Prehistoric</td>
<td>–</td>
<td>LCR chert secondary flake</td>
</tr>
<tr>
<td>290</td>
<td>Historic</td>
<td>–</td>
<td>GLO survey marker on iron post, dated 1917; common corner of T20N, R13E, Sections 13 and 24.</td>
</tr>
<tr>
<td>291</td>
<td>Historic</td>
<td>12 × 3</td>
<td>Foundation to demolished billboard, consisting of four irregular poured (unfinished) footers with sandstone chunks and 4 × 8 post molds, spaced along 9 m. Footers are badly disturbed, with chunks of concrete scattered around; billboard faced westbound traffic on Route 66/I-40.</td>
</tr>
<tr>
<td>307</td>
<td>Prehistoric</td>
<td>–</td>
<td>LCR chert primary flake</td>
</tr>
<tr>
<td>308</td>
<td>Prehistoric</td>
<td>–</td>
<td>LCR chert primary flake with scraper use-wear</td>
</tr>
<tr>
<td>309</td>
<td>Prehistoric</td>
<td>–</td>
<td>LCR chert secondary flake</td>
</tr>
<tr>
<td>310</td>
<td>Prehistoric</td>
<td>20 × 10</td>
<td>LCR chert scatter of 1 primary, 4 secondary, and 1 tertiary flakes</td>
</tr>
<tr>
<td>311</td>
<td>Prehistoric</td>
<td>12</td>
<td>1 LCR chert tertiary flake with scraper use-wear and 1 LCR chert primary flake</td>
</tr>
<tr>
<td>312</td>
<td>Prehistoric</td>
<td>–</td>
<td>1 LCR chert tested cobble</td>
</tr>
<tr>
<td>329</td>
<td>Mixed</td>
<td>–</td>
<td>A high brass shotshell base with headstamp “WINCHESTER / MADE IN USA / № 12 / SUPER SPEED” (after 1937; Goodman 1998) a Tusayan White Ware jar body sherd, and a rhyolite (?) cobble with some edge battering and negative flake scars</td>
</tr>
<tr>
<td>422</td>
<td>Prehistoric</td>
<td>38 × 28</td>
<td>LCR chert scatter of 1 tested cobble and 4 primary, 2 secondary, and 1 tertiary flakes</td>
</tr>
<tr>
<td>423</td>
<td>Prehistoric</td>
<td>–</td>
<td>LCR chert bifacial cobble core, measuring 9.0 × 7.1 × 3.3 cm</td>
</tr>
<tr>
<td>424</td>
<td>Prehistoric</td>
<td>30 × 5</td>
<td>LCR chert scatter of 1 tested cobble and 3 primary and 2 secondary flakes</td>
</tr>
<tr>
<td>427</td>
<td>Prehistoric</td>
<td>30 × 5</td>
<td>LCR chert scatter of 2 tested cobbles and 1 secondary flake</td>
</tr>
</tbody>
</table>

**Note:** Brackets [ ] around an artifact dimension indicate that it is incomplete, measuring the current broken aspect, not the original dimension.
ARCHAEOLOGICAL SITE DESCRIPTIONS

The combined efforts of the records review and fieldwork identified 38 archaeological resources that are designated as archaeological sites (see Figure 4). The sites are described below in numerical order by ASM site designation.
AZ I:15:156(ASM) – Route 66

WESTLAND FIELD SITE NUMBER: 11

CULTURAL AFFILIATION: Euroamerican

AGE: Historic (ca. 1937–1966)

TYPE/FUNCTION: Highway

DIMENSIONS: 3,629.85 m long (recorded portion) by 7.3 m in width on average

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: NRHP listed; Section B is contributing, Section A is non-contributing.

SITE DESCRIPTION: The site is an abandoned segment of US Route 66 between the Meteor City I-40 traffic interchange and the BNSF overpass, consisting of the remains of a paved two-lane rural automobile highway 24 feet in width (see Figure 4; Photo 4). It includes five corrugated metal culverts with poured-concrete head- and tail walls. A borrow pit divides the segment into two sections. Section A is located at the western end, between the current elevated BNSF Railroad grade and the borrow pit, and Section B extends from the borrow pit edge to the traffic interchange. The decaying asphalt surface exhibits multiple layers of chip-and-seal surfaces and is 3 inches thick; 95 percent of the pavement is intact in Segment A, but only 40 percent in Section B. According to the Evans Route 66 Collection in the NAU Cline Library Special Collections, this segment of Route 66 was constructed in 1937 (Evans 2006).
**TOPOGRAPHIC AND ENVIRONMENTAL SETTING:** The road traverses the gently rolling grasslands and sandstone outcrops of the Red Gap Ranch basin at 5,020 to 5,130 feet (1,530 to 1,564 m) amsl. The vegetation is dominated by Russian thistle, Indian ricegrass, snakeweed, saltbush, and little sagebrush. Ground visibility is 76 to 99 percent open.

**FEATURES:** The site features consist of five corrugated pipe culverts. The dimensions of Feature 5 were not collected as it is similar in construction to the others.

Feature 1 features a 25-inch-diameter corrugated pipe culvert with poured concrete head- and tail walls. It is 95¾ inches long, 11 inches thick, and 43 inches high. A finish coat was applied to the top surfaces, with some crumbling of the concrete on the corners; in very good condition overall (Photo 5).

Feature 2 features a 36-inch-diameter corrugated pipe culvert with poured concrete head- and tail walls. It is 143½ inches long, 11 5/8 inches thick, and 65 inches high. A finish coat on the top surfaces is slightly cracking, but the condition is excellent.

Feature 3 measures 93 inches long, 11½ inches thick, and 36 inches high, with a 36-inch culvert. Adjacent is a “Coke” bottle base dated 1966 and bottled in Chicago, Ill.; a 1939-dated “Coke” bottle was observed to the east.

Feature 4 has only a head wall (southern side) to the culvert; it measures 96 inches long by 11 inches thick by 37½ inches high.

**MATERIAL CULTURE:** Thousands of cans and bottles, many with manufacturing date codes, were observed along the edges of the road. Although no systematic analysis was undertaken, manufacturing dates from 1939 to 1966 were observed. The cans are mostly flattop steel 12-oz. beer cans (1935–1963; Maxwell 2000) and cone top beer cans (1935–1950s; Maxwell 2000); one flattop can has an “ACME Beer” label.

**SITE CONDITION:** The road prism is intact with the exception of the borrow pit that divides Sections A and B, and a short section in Section B that is undercut by runoff. As noted above, the intact pavement ranges from 40 to 95 percent intact. Part of Section B remains in use for access to Red Gap Ranch; a locked gate now blocks use of the road west of this point.

**INTERPRETATION:** A segment of Route 66 most heavily used in the 1940s and 1950s. The road formerly made an at-grade crossing of the AT&SF Railroad (now BNSF Railroad), but this has subsequently been replaced by the I-40 BNSF overpass (formerly Sunshine Overpass) of the railroad (Evans 1994). Since Route 66 was abandoned in the late 1960s, the at-grade crossing has been eliminated and the railroad grade reconstructed to significantly elevate the tracks.
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: Route 66 is listed in the NRHP (listed 1989-04-05). This segment has not previously been documented or evaluated for its contribution to the listing. WestLand recommends that Section B of the documented segment is a contributing element under the context of Route 66 and Development of the Federal Highway System. It retains integrity of location, setting, feeling, materials, design, workmanship, and association. Section A is visibly truncated before the horizon in both directions by more recent development and is regarded as non-contributing (Cleeland 1988).
AZ I:16:61(ASM)

**WestLand Field Site Number:** 28

**Cultural Affiliation:** Euroamerican

**Age:** Historic/recent (<1968; probably constructed in the 1940s–1950s)

**Type/Function:** Road

**Dimensions:** 1,068.9 m in length (recorded portion) by 3 m in width on average

**Arizona and National Registers of Historic Places Eligibility Recommendation:** Not eligible

**Site Description:** The site is a graded dirt road that is depicted on the 1968 USGS topographic quadrangles *Canyon Diablo* and *Meteor Crater*. The road is part of a network of roads within Red Gap Ranch that was apparently developed by the former operators of the ranch to provide access from the ranch houses. AZ I:16:61(ASM) follows gently sloping open grasslands across Kaibab Limestone and gravelly sand from its intersection with the road from Meteor Crater to Sunshine, across the BNSF Railroad tracks, and north toward the Navajo Nation; the segment recorded by WestLand extends from the BNSF crossing north approximately 0.75 mile. The road is maintained by blading 10 feet (3 m) wide and from 0 to 4 inches below the natural grade, leaving a low berm of cobbles and soil along its edges (*see Figure 4; Photo 6*); no drainage or water-control features are present. The road is not depicted on the 1921 GLO plat of T20N R12½.

![Photo 6. AZ I:16:61[ASM]](image-url)
TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The road traverses the gently rolling grasslands and limestone exposures of the western portion of Red Gap Ranch at 5,250 to 5,320 feet amsl (recorded segment). The vegetation is dominated by Russian thistle, globe mallow, yellow eyes, saltbush, Indian ricegrass, plain prickly pear, and little sagebrush. Ground visibility is 76 to 99 percent open.

FEATURES: None

MATERIAL CULTURE: Trash is sparse and was not individually documented, but included one large bolt (possibly from overhead powerline AZ J:13:30[ASM]), one 12-oz. flattop steel beer can (1935–1963; Maxwell 2000), three or four sanitary cans (one group-serving size and two or three single-serving size), two or three clear or brown broken bottles with no diagnostic makers’ marks, and one chert tertiary flake.

SITE CONDITION: The road is undisturbed and sees occasional use, but is not actively maintained.

INTERPRETATION: Part of a network of local roads on the Red Gap Ranch. AZ I:16:61(ASM) was formerly the primary route from Route 66 and I-40 to the western end of the ranch.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: AZ I:16:61(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.
AZ J:13:15(ASM)

**ALTERNATIVE SITE NUMBER:** None

**WESTLAND FIELD SITE NUMBERS:** 184/195

**CULTURAL AFFILIATION:** Native American

**AGE:** Prehistoric (Paleoindian and Basketmaker)

**TYPE/FUNCTION:** Artifact scatter/resource procurement

**SITE SIZE:** 1,653.5 by 656.6 m (1,085,688.1 m²)

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:** Eligible (D); previously recommended Eligible (D)

**SITE DESCRIPTION:** AZ J:13:15(ASM) is a previously recorded low-density scatter of Little Colorado River (LCR) chert cobbles, cores, debitage, and tools located on gently sloping plains (*Figure 5; Photo 7*).

The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976). The site was first recorded by D. Irwin in 1989 as “a prehistoric low density lithic scatter. Numerous chert and quartzite gravels eroding out of low ridges in the area supply raw materials which have been tested by flaking cores. Some bifacial blanks
Figure 5. Site AZ J:13:15(ASM)
[are] present, [as are] cores, and numerous cortical flakes over a large area.” The site was identified during an inventory of the Coconino-to-Winslow 69-kV transmission line (AZ J:13:30[ASM]). The site boundaries were apparently mapped on the USGS topographic quadrangle, and it was noted that the “site boundaries are not well defined due to extent of the scatter. Size figures represent estimates made on survey observations of the total extent of outcropping raw materials which have numerous flakes and cores scattered amongst them.” According to AZSITE, no recommendations were made regarding eligibility. The site was revisited in 2009 during another inventory of Arizona Public Service’s (APS) transmission line (Whiting et al. 2011), at which time artifacts within the APS right-of-way were documented (including a Late Paleoindian Plainview point base). The site was recommended as eligible for inclusion in the ARHP and the NRHP under Criterion (D).

Parts of three rights-of-way of the present project fall within the site. WestLand identified all the artifacts within the western right-of-way, resulting in a minor revision to the site boundary, which now extends slightly farther to the north to include a low rise with a dense concentration of artifacts. All the artifacts in the western right-of-way were analyzed in field; no artifacts were documented in the two eastern rights-of-way; however, the previously identified site boundaries appeared to correspond with the distribution of the artifacts observed by WestLand.

**Topographic and Environmental Setting:** The site is at an elevation of 4,990 feet (1,521 m) amsl on open grasslands covered in sparse low grasses, Russian thistle, little sagebrush, and winterfat. Ground visibility within the site boundaries is 76 to 99 percent open. Sediments within the site are silty sands.

**Features:** None

**Material Culture:** WestLand identified 2 bifaces, 7 cores, 6 tested cobbles, and 85 debitage within the western pipeline right-of-way (*Table 4*); the eastern rights-of-way (two existing roads) were not analyzed. The debitage (21 primary, 22 secondary, 20 tertiary, 19 biface-thinning flakes and 3 angular debris) is LCR chert (n=84), with the exception of a single flake of chalcedony. No other artifacts were observed. The site is estimated to contain thousands or more of artifacts.

Table 4. Point-located artifacts, AZ J:13:15(ASM)

<table>
<thead>
<tr>
<th>PL No.</th>
<th>Artifact Type</th>
<th>Material</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flaked stone</td>
<td>Obsidian</td>
<td>Late-stage biface/point preform proximal fragment, measuring [18 mm in length], 22 mm in width, and 6 mm in thickness. The material is dark gray to black, opaque, low luster, with no phenocrysts.</td>
</tr>
<tr>
<td>2</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Bifacial cobble core, measuring 7.5 × 5.3 × 3.2 cm</td>
</tr>
<tr>
<td>3</td>
<td>Flaked stone</td>
<td>Chalcedony LCR chert</td>
<td>1 primary flake core, 6.0 × 5.3 × 2.1 cm and 1 amorphous core fragment, 6.1 × 3.5 × 2.7 cm</td>
</tr>
<tr>
<td>4</td>
<td>Flaked stone</td>
<td>Basalt</td>
<td>Biface proximal fragment (square base to a finished tool), measuring [31] × 31 × 7 mm</td>
</tr>
<tr>
<td>5</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Exhausted formal unidirectional core, 5.8 × 5.0 × 2.9 cm</td>
</tr>
<tr>
<td>6</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>2 cores: 1 expedient bifacial, 4.9 × 4.0 × 2.2 cm, and 1 exhausted amorphous, 3.9 × 3.7 × 3.3 cm</td>
</tr>
<tr>
<td>7</td>
<td>Battered stone</td>
<td>Quartzite</td>
<td>Cobble (half) core, 7.2 × 7.0 × 5.4 cm</td>
</tr>
</tbody>
</table>

Total artifacts | 9 |
SITE CONDITION: The site has been disturbed by the construction of three bladed access roads and one historical powerline (AZ J:13:30[ASM]), but otherwise appears to be undisturbed.

INTERPRETATION: The site is a typical Tolchaco lithic-procurement site at which lag deposits of high-quality Little Colorado River chert cobbles and pebbles were exploited as a lithic-procurement source. Late Paleoindian and Basketmaker artifacts have been documented previously at this site, demonstrating that Tolchaco sites were exploited for millennia.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: AZ J:13:15(ASM) was previously recorded in 1989, with no eligibility recommendation reported by AZSITE. The site was revisited in 2009 and recommended as eligible for inclusion in the ARHP and the NRHP under Criterion (D). WestLand concurs with the previous recommendation that AZ J:13:15(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association and contains considerable data regarding the past use of primary Tolchaco gravel sites that have yet to be collected and analyzed. The shallow sediments across the site suggest little potential for intact buried features and/or deposits that could address questions important in prehistory. However, the in-field analysis of the artifacts examined only a tiny percentage of the site area and not all of the area potentially impacted by the proposed project. Additional information regarding the association and lithic-reduction strategies used at the site may be available through the analysis of more of the assemblage, including information on the cultural and temporal affiliations of the groups who utilized this resource.
AZ J:13:16(ASM)

ALTERNATIVE SITE NUMBER: None
WESTLAND FIELD SITE NUMBER: 297
CULTURAL AFFILIATION: Native American
AGE: Aceramic
TYPE/FUNCTION: Artifact scatter/resource procurement
SITE SIZE: 1,429.5 by 423.0 m (604,678.5 m²)
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Undetermined

SITE DESCRIPTION: AZ J:13:16(ASM) is a previously recorded moderate-density scatter of Little Colorado River chert cobbles and pebbles, cores, debitage, and tools located along a low, undulating mesa of Moenkopi sandstone (Figure 6; Photo 8).

The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976). The site was first recorded by D. Irwin in 1989 as “a low density lithic scatter associated with large area of quartzite and chert gravels… at least one bifacial blank, several cores, and numerous flakes are present.” The site was identified during an
Figure 6. Site AZ J:13:16 (ASM)
inventory of the Coconino-to-Winslow 69-kV transmission line. The site boundaries were apparently mapped on the USGS topographic quadrangle, and it was noted that the “site boundaries [are] difficult to define, thus site boundaries and dimensions approximate [the] total area of outcropping raw materials, flakes, and cores.” According to AZSITE, no recommendations were made regarding eligibility. The site was revisited in 2009 during another inventory of the APS transmission line (Whiting et al. 2011). WestLand identified all the artifacts within the present survey area, resulting in a significant revision to the eastern site boundary, which has now been redrawn hundreds of meters to the west. The sparse scatter of artifacts observed within the former site boundaries east and south of this line do not meet the ASM site criteria and were documented as isolated occurrences, either singly or as small scatters. It is possible that this portion of the site represents a break between loci; WestLand did not verify the site boundaries beyond the present survey area, however. The status of the other portions of the site cannot be evaluated within the scope of the present project.

**TOPOGRAPHIC AND ENVIRONMENTAL SETTING:** The site boundaries correspond with Tolchaco gravel deposits across a low, undulating mesa of Moenkopi sandstone. Silty sand and decomposing Moenkopi sandstone gravels are present 0 to 5 cm thick above bedrock, as exposed in the bladed powerline access road through the site. Vegetation includes grasses, Russian thistle, saltbush, snakeweed, globe mallow, ephedra, and little sagebrush. Ground visibility within the site boundaries is 75 to 99 percent open. The site is at an elevation of 4,985 feet (1,519 m) amsl.

**FEATURES:** None

**MATERIAL CULTURE:** AZ J:13:16(ASM) contains thousands of lithic artifacts. WestLand analyzed all the artifacts within the project right-of-way, which consisted of 4 cores, 25 tested cobbles, and 97 debitage (62 primary, 32 secondary, and 3 tertiary flakes and 1 angular debris), all made from the locally available LCR chert. One primary flake exhibited marginal use-wear. Additionally, 2 broken recent bottles (one of which has the 1954–present Owens-Illinois Glass Company maker’s mark), 1 low brass shotshell base with headstamp “W.R.A. Co / № 10 / RIVAL” (1884–1929 [Goodman 1998]), and 1 broken ceramic electrical insulator were identified. The cores were made from LCR chert and consist of a unidirectional cobble core (PL-1) that measures 5.2 by 3.9 by 1.5 cm, 2 bifacial cobble cores less than 1 m apart (PL-2) measuring 6.8 by 4.3 by 2.0 cm and 6.5 by 4.8 by 1.2 cm, and an amorphous core measuring 7.6 by 4.7 by 3.2 cm.

**SITE CONDITION:** The site exhibits minor sheetwash erosion, resulting in the surface displacement of the artifacts, and has been impacted by the construction of a historical power transmission line (AZ J:13:30[ASM]) and access road through the site.

**INTERPRETATION:** The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed.

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION:** AZ J:13:16(ASM) was previously recorded in 1989, with no eligibility recommendation reported by AZSITE. The site was revisited in 2009, but the ARHP and NRHP eligibility of the site was recommended as being undetermined due to a lack of cultural and temporal affiliation. WestLand concurs with the recommendation that the ARHP and NRHP eligibility of AZ J:13:16(ASM) are uncertain. The site retains
integrity of location, setting, and materials, but lacks evidence of integrity of association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only a small percentage of the artifact assemblage. Additional information regarding the cultural and temporal affiliation and lithic-reduction strategies used at this site may be available through further analysis of the remaining assemblage.
AZ J:13:17(ASM)


**WestLand Field Site Number:** 276

**Cultural Affiliation:** Native American

**Age:** Aceramic

**Type/Function:** Artifact scatter/resource procurement

**Site Size:** 3,214.2 by 1,025.2 m (3,295,197.8 m²)

**Arizona and National Registers of Historic Places Eligibility Recommendation:** Eligible (D)

**Site Description:** AZ J:13:17(ASM) is a previously recorded high-density scatter of Little Colorado River chert cobbles and pebbles, cores, debitage, and tools located on a high, level ridge that defines the eastern edge of the Red Gap basin (*Figure 7; Photo 9*). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976). The site boundaries observed by WestLand represent a substantial southward extension of the previously mapped boundaries as depicted in AZSITE. The site was first identified by WestLand along the I-40 frontage road, hundreds of meters south of the plotted location of AZ J:13:17(ASM); however, during recording, the observed surface assemblage extended to the plotted previous site boundaries, with no observed breaks in density. The site boundaries recorded by WestLand encompass four other previously recorded sites according to the site plots provided by AZSITE: AZ J:13:2, 3, 24, and 25(ASM).

Photo 9. AZ J:13:17(ASM)

AZ J:13:2 and AZ J:13:3 were recorded in 1966 by E. T. Hemmings during his survey of the I-40 right-of-way prior to its construction; no report on this project has ever been completed. AZ J:13:2 was described as a 1,000-ft-sq area of chert gravel with flakes and blanks. AZ J:13:3 contained chert flakes, blanks, one smudged brownware sherd, and a mano in 4,000 ft sq and was characterized as “primarily a lithic site or workshop area.” [Note that the description of both sites as being located on the Navajo Reservation provided in the current AZSITE site descriptions is incorrect.] Both sites were purportedly destroyed by the construction of I-40, although the plots supplied by AZSITE indicate that they may extend into the current survey area.
Figure 7. Site AZ J:13:17(ASM)
AZ J:13:17(ASM) was recorded by D. Irwin in 1989 during survey of the APS Coconino-to-Winslow 69-kV powerline, and described as “a low density lithic scatter interspersed in a large area of outcropping chert and quartzite gravels. The total extent of the scatter was not determined and lithic artifact densities are variable over a very large area. At least one biface blank, several cores, and numerous flakes present.” No recommendations regarding the eligibility of the site to the ARHP or NRHP were made in 1989. The site was revisited in 2009 during another survey of the APS powerline (Whiting et al. 2011), at which time Logan Simpson Design, Inc. stated that the eligibility was undetermined due to lack of cultural or temporal affiliation.

AZ J:13:24(ASM) was documented by Logan Simpson Design, Inc. during an inventory along I-40 in 2001. The site extended from the I-40 right-of-way into Red Gap Ranch, and measured 60 by 155 m. The site was identified as a lithic scatter, including 38 primary flakes, 74 secondary, 74 tertiary and 12 angular debris, as well as 17 cores, 10 tested cobbles, 1 biface, 12 retouched flakes, 1 blade, 1 unifacial scraper, and 1 hammerstone. Chert (n=231) dominated the site, with 5 quartzite, 2 rhyolite, and 2 basalt artifacts; a total of 251 artifacts were documented during recording. The site area had an artifact density of 0.027 per meter squared. In 2002 the Arizona SHPO determined the site not eligible for the NRHP.

Logan Simpson Design also recorded AZ J:13:25(ASM) in 2001 as a “prehistoric chipped stone scatter with a density of 0.048 artifacts per square meter.” They conducted in-field analysis on the 191 flaked stone and one ground stone artifact that they observed, including artifacts within the I-40 right-of-way and outside. Based on the shallow soils and complete documentation during recording, the site was recommended not eligible, with the SHPO making a formal determination to this effect in 2002.

WestLand resources encountered a continuous scatter of LCR chert flakes and tested cobbles along the I-40 frontage road, which encompassed the previous site plots of AZ J:13:2, 3, 24, and 25. In attempting to define the boundaries of this site, WestLand discovered that it extended without interruption north east and westward to the previous boundaries of AZ J:13:17(ASM), but did not attempt to verify the previous site boundaries, other than to note that artifacts represented a continuous distribution from the I-40 frontage road to the AZSITE-plotted previous site boundaries. Most of the site is located outside the present survey area.

**Topographic and Environmental Setting:** The site boundaries correspond with Tolchaco gravel deposits across the level surface of a high ridge at the eastern end of Red Gap Ranch, a landform that defines the eastern basin edge. Deposits of smaller, pebble-sized Tolchaco gravels extend beyond the site boundaries, but artifacts were only observed in the areas of the larger, cobble-sized stones. Cobbles and gravels form dense pavements of stones across much of the site. Silty sand and decomposing Moenkopi sandstone gravels of undetermined depth are present beneath the site. The site is at an elevation of 5,025 feet (1,532 m) amsl. Vegetation includes grasses, Russian thistle, saltbush, and snakeweed. Ground visibility within the site boundaries is 51 to 76 percent open.

**Features:** None

**Material Culture:** No artifacts were analyzed in field during site recording. The site contains tens of thousands of tested cobbles, debitage, and other flaked stone artifacts. Additionally, the site area is covered with historical/recent roadside trash from Route 66 and I-40, which are located a short distance south of the site, and from SR 99, which bisects the site north-south.
SITE CONDITION: AZ J:13:17(ASM) exhibits moderate disturbance from a number of sources, including I-40, the I-40 frontage road, SR 99, a historical telephone line (AZ J:13:41[ASM]), a bladed road that may be associated with the construction of I-40 (possibly to a borrow pit), and several private houses (outside the present survey area). The artifacts are subject to minor alluvial and aeolian displacement, and the assemblage is mixed with historical/recent trash derived from Route 66 and I-40.

INTERPRETATION: The site is a typical primary Tolchaco gravel lithic-procurement site directly associated with Tolchaco gravel beds. Other Tolchaco sites in the survey area appear to be minor or secondary (redeposited) Tolchaco gravels. Only cobble-sized rocks were utilized for lithic raw material; the pebble-sized stones were not used.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: The portions of AZ J:13:17(ASM) previously recorded in 1966 (AZ J:13:2 and 3[ASM]) had no eligibility recommendation reported by AZSITE, and the portions documented as AZ J:13:24 and 25(ASM) were determined as not eligible in 2002. No eligibility assessment was recommended when AZ J:13:17(ASM) was initially recorded in 1989; the site was revisited in 2009, at which time the site was recommended as being of undetermined eligibility due to a lack of integrity of association. WestLand recommends that AZ J:13:17(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site is a primary gravel deposit used as a lithic-procurement source and retains integrity of location, setting, and materials. It contains considerable data regarding the past use of primary Tolchaco gravel sites that have yet to be collected and analyzed under the context of Lithic Resource Procurement in the Tolchaco Gravels. Documentation of the site to date has been cursory and focused primarily on elucidating the site boundaries or concentrations of greater artifact density, with little systematic analysis of the artifacts. Further investigation may establish the cultural and temporal affiliation of the site, which has yet to be identified.
AZ J:13:20(ASM)

ALTERNATIVE SITE NUMBER: None

WESTLAND FIELD SITE NUMBER: 269

CULTURAL AFFILIATION: Archaic

AGE: Middle–Late Archaic

TYPE/FUNCTION: Artifact scatter/resource procurement

SITE SIZE: 125.6 by 120.3 m (15,109.7 m²)

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Not eligible

SITE DESCRIPTION: AZ J:13:20(ASM) is a previously recorded low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located in a flat playa basin that is largely devoid of vegetation (Figure 8; Photo 10).

The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976). The site boundaries observed by WestLand conform closely with those depicted in AZSITE. AZ J:13:20(ASM) was first recorded by...
Figure 8. Site AZ J:13:20(ASM)
Logan Simpson Design during a maintenance inventory along I-40 (Lonardo et al. 2002). The site was described as a low-density (0.024 artifact per square meter) lithic scatter containing 47 flakes of chert, quartzite, and basalt, with most of the artifacts found north of the frontage road. Logan Simpson identified 1 projectile point base, 1 projectile point tip, 1 core, 10 secondary flakes, 31 tertiary flakes, and 1 angular debris. Perhaps due to aeolian erosion, WestLand observed additional artifacts in 2013.

**Topographic and Environmental Setting:** The site is in a basin that has formed a small, flat playa. Its elevation is 4,975 feet (1,516 m) amsl. The western boundary of the site is marked by a slight upslope, a wash channel, and low Moenkopi sandstone outcrops. The southern boundary is the I-40 frontage road. Silty sand and decomposing Moenkopi sandstone gravels of undetermined depth are present beneath the site. Vegetation includes Russian thistle, grasses, snakeweed, and asters. Ground visibility within the site boundaries is 76 to 99 percent open.

**Features:** None

**Material Culture:** All the artifacts were analyzed in field during site recording. The site contains 1 dart point, 1 dart point or biface, 3 cores, 11 tested cobbles (10 LCR chert and 1 chalcedony), 85 flaked stone debitage (18 primary, 37 secondary, 17 tertiary, 11 biface-thinning flakes and 2 angular debris), and 1 hole-in-cap can fragment. The lithic assemblage included 93 LCR chert artifacts, 6 chalcedony (1 tested cobble, 1 primary, 2 secondary, 1 tertiary, and 1 biface-thinning flake) artifacts, and 2 quartzite tertiary flakes. Additionally, the site area is covered with historical/recent roadside trash from Route 66 and I-40, which are located a short distance south of the site. Five artifacts and one recent (?) feature were point-located (*Table 5*). PL-6 may be a Late Archaic Armijo or Middle to Late Archaic San Jose type point (*Photo 11*); both styles often have serrated blades (Fields 2009).

**Table 5. Point-located artifacts, AZ J:13:20(ASM)**

<table>
<thead>
<tr>
<th>PL No.</th>
<th>Artifact Type</th>
<th>Material</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 amorphous core, measuring 7.5 × 5.0 × 4.4 cm</td>
</tr>
<tr>
<td>2</td>
<td>Feature</td>
<td>Metal</td>
<td>Piece of rebar surrounded by ring of sandstone cobbles</td>
</tr>
<tr>
<td>3</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 bidirectional core fragment, measuring 6.3 × 3.0 × 2.8 cm</td>
</tr>
<tr>
<td>4</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Dart point or preform medial fragment, measuring [18] × 25 × 5 mm</td>
</tr>
<tr>
<td>5</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 amorphous core, 6.1 × 4.4 × 1.8 cm</td>
</tr>
<tr>
<td>6</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 serrated dart point medial fragment (tip and base missing), measuring [38] × 25 × 4 mm (<em>see Photo 11</em>)</td>
</tr>
</tbody>
</table>

**Site Condition:** AZ J:13:20(ASM) exhibits little apparent disturbance, although the I-40 frontage road bisects the site and I-40 truncates its southern edge. The artifacts are subject to alluvial and aeolian displacement, and the assemblage is mixed with historical/recent trash derived from Route 66 and I-40.
INTERPRETATION: The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes and includes fragments of Archaic-style dart points made from LCR chert.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: AZ J:13:20(ASM) was previously determined not eligible for inclusion in the ARHP or the NRHP under any criterion (2003); WestLand concurs with this assessment. The site retains integrity of location, setting, materials, and association, but is unlikely to contain intact subsurface features and/or deposits. It is not considered a significant resource and is unlikely to contribute information beyond what was collected during the in-field analysis.
AZ J:13:30(ASM) – Coconino-to-Winslow Line

Alternative Site Number: AZ-O-62-4(NNHPD)

WestLand Field Site Number: 149

Cultural Affiliation: Euroamerican

Age: Historic (constructed 1930)

Type/Function: Power transmission line

Dimensions: 17,471.0 m long (recorded portion)

Arizona and National Registers of Historic Places Eligibility Recommendation: Not eligible

Site Description: AZ J:13:30(ASM) is a historical 69-kV power transmission line linking the Coconino substation in Flagstaff with the Winslow substation in Winslow. It is also known as the NE-8 line. The line is three-phase single wires and a shield wire on wooden poles, all of which have been replaced within the past 20 years (see Figure 4; Photo 12).

The new poles are substantially taller and feature a different design in the placement of the transmission wires, which are now on individual steel insulator arms and staggered with two on one side of the pole and the third in between on the opposite side; the original poles had wooden cross-bars with wires on
cERAMIC INSULATORS, two on one side and one on the opposite side of the pole. Some poles have been replaced with steel monopoles, although none are within the present survey area (Whiting et al. 2011:37). Double poles with a crossed wooden brace between, used to change the relative wire locations, have been removed. The NE-8 line was completely inventoried in 2009, including the mapping of the location and condition of each individual pole (Whiting et al. 2011). At that time, only a relatively small percentage of the original poles had been replaced, and the site was recommended as eligible to the NRHP under Criterion (A). WestLand did not conduct any additional recording of this site, other than to map its location relative to the other cultural resources in Red Gap Ranch and to photograph its current condition.

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The line traverses the gently rolling grasslands and sandstone outcrops of Red Gap Ranch at 4,980 to 5,320 feet amsl. The vegetation is dominated by grasses, Russian thistle, snakeweed, saltbush, and little sagebrush. Ground visibility is 26 to 50 percent open.

FEATURES: None

MATERIAL CULTURE: No associated artifacts other than incidentally lost metal hardware such as nuts, bolts, and cable ends and broken ceramic insulators. Associated artifacts were not individually documented.

CONDITION: The line is in use and actively maintained, with all the wooden poles having been replaced within the past 2 to 20 years.

INTERPRETATION: The line is part of the Arizona Public Service Company’s historical electric grid in Arizona.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: Whiting and others (2011) recommended the Coconino-to-Winslow line as eligible for inclusion in the NRHP under Criterion (A) for its part in the development of the electric grid in Arizona. While it was acknowledged that ongoing maintenance of the line had compromised the integrity of its materials and workmanship, Whiting et al. (2011:37) argued that “the NE-8 line retains sufficient integrity to convey its historic appearance and function.” WestLand recommends AZ J:13:30(ASM) as not eligible for inclusion in the ARHP or the NRHP under any criterion due to a loss of integrity from the replacement of the original poles with new poles of a different design and appearance. The site retains integrity of location, setting, feeling, and association, but can no longer convey the feeling, design, or materials of a 1930s powerline.
AZ J:13:33(ASM)

ALTERNATIVE SITE NUMBER: None
WESTLAND FIELD SITE NUMBER: 92
CULTURAL AFFILIATION: Native American
AGE: Aceramic
TYPE/FUNCTION: Artifact scatter/limited activity
SITE SIZE: 101.9 by 34.0 m (3,464 m²)
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Not eligible

SITE DESCRIPTION: AZ J:13:33(ASM) is a scatter of flaked stone artifacts on and around a low Moenkopi sandstone outcrop (Figure 9; Photo 13).

Photo 13. AZ J:13:33(ASM)

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site is located at 5,055 feet (1,541 m) amsl elevation on and around a low exposure of Moenkopi sandstone bedrock, which stands only 0 to 100 cm above the surrounding plain. The vegetation in and near the site consists of saltbush, little sagebrush, Russian thistle, globe mallow, and snakeweed. Ground visibility is 76 to 99 percent open.
Figure 9. Site AZ J:13:33(ASM)
FEATURES: None

MATERIAL CULTURE: AZ J:13:33(ASM) contains one biface fragment (PL-1), one tested cobble, and 67 flaked stone debitage (6 primary, 11 secondary, 9 tertiary, 35 biface-thinning, 5 pressure, and 1 overshot flake). All the flaked stone artifacts were made from locally available LCR chert. One tertiary flake exhibits lateral margin scraper use-wear. PL-1 is a proximal fragment of an early-stage biface, measuring [31 mm in length], 51 mm in width, and 15 mm in thickness. Additionally the site contains one historical/recent ceramic (a porcelain Christmas ornament depicting a cherub with a squirrel), and six ammunition cartridge cases: 1 rifle cartridge case “REM-UMC / 1906” (1911–1934; Goodman and Gilpin 2005), 2 rimfire .22 case with headstamp “F” (since 1916 [Goodman and Gilpin 2005:163]), one .22 caliber rimfire case with headstamp “H” (since 1866 [Goodman and Gilpin 2005:163]), 1 .22 caliber BB Cap (Barnes 2000) rimfire case (very short) with headstamp “U” (1867–1962; Goodman and Gilpin 2005:161) and a sardine can embossed “NORGE.”

SITE CONDITION: Ranch road AZ J:13:39(ASM) has been bladed through the site, bisecting it, and the artifacts are subject to minor alluvial and aeolian movement. The site has been visited, as evidenced by historical ammunition, but there is no obvious vandalism or looting. No other apparent disturbances were noted.

INTERPRETATION: The site assemblage contains a relatively high percentage of interior flakes, especially biface-thinning flakes, which suggests that it is the locus of biface and/or tool manufacturing from prepared cores or bifaces of LCR chert. Such sites are typically associated with hunting, as weapons are prepared or repaired while waiting on game.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: AZ J:13:33(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, and materials, but lacks association and has no potential for any intact subsurface features and/or deposits. The entire artifact assemblage was analyzed in field, and no additional information important in prehistory appears likely to be forthcoming. The site is not regarded as a significant resource.
ALTERNATIVE SITE NUMBER: None

WESTLAND FIELD SITE NUMBER: 289

CULTURAL AFFILIATION: Native American

AGE: Ceramic (?)

TYPE/FUNCTION: Artifact scatter/resource procurement

SITE SIZE: 250.0 by 130.3 m (32,575.0 m²)

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Eligible (D)

SITE DESCRIPTION: AZ J:13:34(ASM) is a moderate-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools on a level plain of open grasslands (Figure 10; Photo 14). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976).

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site is on a level plain that slopes to the south to a broad, braided wash. It is at an elevation of 4,865 feet (1,483 m) amsl. The site contains silty sand derived from decaying sandstone 0 to 5 cm thick, above bedrock, as exposed in the bladed road through the site.
Figure 10. Site AZ J:13:34(ASM)
Vegetation includes grasses, Russian thistle, and snakeweed. Ground visibility within the site boundaries is 51 to 75 percent open.

**Features:** None

**Material Culture:** All the artifacts within the project right-of-way were analyzed. These consist of 4 cores (Table 6), 15 tested cobbles, and 90 debitage (42 primary, 34 secondary, 13 tertiary flakes, and 1 angular debris). The lithic artifacts are made entirely of LCR chert, with the exception of two chalcedony primary flakes. Outside the project boundaries, WestLand tallied 105 tested cobbles or debitage, suggesting that the site contains approximately 250 artifacts. No diagnostic tools were observed; however, a single sherd of St. Joseph Black-on-white, a rare early Little Colorado White Ware, with a Kana’a design style was observed, suggesting a possible Pueblo I Anasazi affiliation (A.D. 825–950 or 1050; Hays-Gilpin and van Hartesvelt 1998:100).

<table>
<thead>
<tr>
<th>PL No.</th>
<th>Artifact Type</th>
<th>Material</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 amorphous core, measuring 3.9 × 4.0 × 3.5 cm</td>
</tr>
<tr>
<td>2</td>
<td>Battered stone</td>
<td>LCR chert</td>
<td>1 cobble core, measuring 8.9 × 5.4 × 3.9 cm</td>
</tr>
<tr>
<td>3</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>A bifacial core/very early-stage biface, measuring 8.0 × 4.8 × 2.7 cm</td>
</tr>
<tr>
<td>4</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 bifacial flake core, measuring 7.4 × 4.4 × 2.2 cm</td>
</tr>
</tbody>
</table>

**Site Condition:** A road has been bladed through the site, and a range fence has been constructed along the eastern edge. The road exposes bedrock 0 to 5 cm below the surface. No other disturbance was apparent.

**Interpretation:** The site assemblage indicates a typical Tolcacho gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed.

**Arizona and National Registers of Historic Places Eligibility Evaluation:** WestLand recommends that AZ J:13:34(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and possibly association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only approximately 44 percent of the observed artifact assemblage. Under the context of Lithic Resource Procurement in the Tolcacho Gravels, additional information regarding the cultural and temporal affiliation and lithic-reduction strategies used at the site may be available through further analysis of the remaining 56 percent of the assemblage.
AZ J:13:35(ASM)

**WestLand Field Site Number:** 70

**Cultural Affiliation:** Euroamerican

**Age:** Historic/recent (<1968; probably constructed in the 1940s–1950s)

**Type/Function:** Road

**Dimensions:** 1,909.5 m in length (recorded portion) by 3 m in width on average

**Arizona and National Registers of Historic Places Eligibility Recommendation:** Not eligible

**Site Description:** AZ J:13:35(ASM) is a graded dirt road that is depicted on the 1968 USGS topographic quadrangles Tucker Mesa NW and Tucker Mesa SW. The road is part of a network of roads within Red Gap Ranch that was apparently developed by the former operators of the ranch to provide access from the ranch houses. The site extends from the northern edge of the ranch compound east-northeast along Cow Canyon (see Figure 4; Photo 15).

WestLand documented the site from the ranch houses to the edge of the project buffer (2 miles from the edge of the Navajo Nation boundary). The road is maintained by grading to a width of 10 feet and cut 2 to 5 inches below the natural grade, leaving a low berm of cobbles and soil along its edges. No drainage or water-control features are present. Much of the roadbed exposes Moenkopi Formation sandstone. The road is not depicted on the 1921 GLO plat of T20N R13E.
**Topographic and Environmental Setting:** The road traverses the gently rolling grasslands and sandstone outcrops of Red Gap Ranch at 4,985 to 5,035 feet amsl. The vegetation is dominated by Russian thistle, Indian ricegrass, snakeweed, saltbush, and little sagebrush. Ground visibility is 76 to 99 percent open.

**Features:** None

**Material Culture:** Trash is sparse and was not individually documented.

**Site Condition:** The road is in use and maintained. The only impacts observed were minor gullying.

**Interpretation:** The site is part of a network of local roads on the Red Gap Ranch. It was the primary route through the northern part of the ranch.

**Arizona and National Registers of Historic Places Eligibility Evaluation:** AZ J:13:35(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch is eligible for inclusion in the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period or context under which the ranch itself is considered eligible.
**AZ J:13:36(ASM)**

**Alternative Site Number:** None  
**Westland Field Site Number:** 80  
**Cultural Affiliation:** Archaic  
**Age:** Middle–Late Archaic  
**Type/Function:** Artifact scatter/resource procurement  
**Site Size:** 250.8 by 161.4 m (40,479.1 m²)  
**Arizona and National Registers of Historic Places Eligibility Recommendation:** Eligible

**Site Description:** AZ J:13:36(ASM) is an extensive low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on a level, open bench between a low sandstone ridge to the east and south and a drainage to the west (*Figure 11; Photo 16*). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976).

![Photo 16. AZ J:13:36(ASM)](image)

**Topographic and Environmental Setting:** The site is on a level, broad bench, most of which is within the site boundaries. The vegetation is sparse and low, and includes saltbush and grasses. Ground visibility within the site boundaries is 76 to 99 percent open. Pinflag probes indicate that sediments are very shallow, only 0 to 5 cm above the Moenkopi Sandstone bedrock. The site is at an elevation of 4,900 feet (1,494 m) amsl.

**Features:** None

**Material Culture:** AZ J:13:36(ASM) contains 243 artifacts: 1 dart point (PL-3), 1 scraper (PL-1), 2 biface fragments (PL-2 and PL-4), 21 cores (all made from LCR chert), 18 tested cobbles (16 chert and 2 rhyolite), and 200 debitage (192 chert, 4 rhyolite, 3 quartzite, 1 chalcedony). Debitage within the road right-of-way was analyzed in field, including 60 chert (30 primary, 22 secondary, 4 tertiary, 3 shatter, and 1 utilized), 3 quartzite (1 primary and 2 secondary), and 1 chalcedony primary flake. PL-3 is a stemmed dart point base (possibly Armijo Stemmed B or San Jose), measuring 26 mm in length, 20 mm wide and
7 mm thick, made from LCR chert (Photo 17). San Jose points were made during the Middle and Late Archaic (4500–1500 B.C.) and Armijo Stemmed B points are a Late Archaic (1900 B.C. to A.D. 400) type (Fields 2009). PL-1 is an endscraper made by distal and lateral retouch in a large tertiary flake of LCR chert, measuring 50 mm in length, 28 mm in width, and 10 mm in thickness. PL-3 is a proximal biface fragment from which several flakes were removed from the edge of the break after it snapped; it measures [3.7] by 5.0 by 0.8 cm and is made from LCR chert. PL-4 is an LCR chert quarry blank/early-stage biface fragment measuring [4.2] by 5.3 by 0.9 cm.

SITE CONDITION: The site is bisected by a bladed dirt road (AZ J:13:40[ASM]) that has exposed bedrock 0 to 5 cm below the surface. Artifacts may have been horizontally displaced by aeolian and alluvial erosion, but the site is otherwise undisturbed.

INTERPRETATION: The site is a typical Tolchaco lithic-procurement site at which lag deposits of high-quality Little Colorado River chert cobbles and pebbles were exploited as a lithic-procurement source. Although the presence of an Archaic-style dart point indicates that the site was utilized during this period, previous research has demonstrated that Tolchaco sites are often a palimpsest resulting from expedient procurement from Paleoindian (or earlier) times to the Historic period (Keller and Wilson 1976; Whiting et al. 2011).

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: WestLand recommends that AZ J:13:36(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only 35 percent of the observed artifact assemblage. Additional information regarding Lithic Resource Procurement in the Tolchaco Gravels, including the association and lithic-reduction strategies used at this site, may be available through the analysis of the remaining 65 percent of the assemblage.
AZ J:13:37(ASM)

WestLand Field Site Number: 89

Cultural Affiliation: Euroamerican

Age: Historic (probably constructed circa 1935)

Type/Function: Power distribution line

Dimensions: 2,505.9 m (recorded portion)

Arizona and National Registers of Historic Places Eligibility Recommendation: Not eligible

Site Description: AZ J:13:37(ASM) is a historical power distribution line within Red Gap Ranch. The line consists of three-phase single wires and a shield wire on wooden poles, some of which are relatively weathered. Others are much less weathered, suggesting that over the years some poles have been replaced (see Figure 4; Photo 18). Two poles exhibited date nails for 1935 and 1972 (both). The line provides power to the various buildings of Red Gap Ranch, including the two houses that are located north of the main ranch compound. The houses are accessible by an abandoned bladed road that does not appear on the historical 1968 topographic quadrangles Tucker Mesa NW and Tucker Mesa SW. It isn’t depicted on the 1921 GLO plats of T20N R13E either. Likewise, the houses themselves are also not depicted, suggesting that they are of more recent construction (after 1968). Red Gap Ranch appears to have been developed in the 1940s, although some artifacts associated with the ranch are earlier.

Topographic and Environmental Setting: The line traverses the gently rolling grasslands and sandstone outcrops of Red Gap Ranch at 4,980 to 5,050 feet amsl. The vegetation is dominated by grasses, Russian thistle, snakeweed, saltbush, and little sagebrush. Ground visibility is 26 to 50 percent open.

Features: None

Material Culture: There are no associated artifacts other than incidentally lost metal hardware such as nuts, bolts, and cable ends. The associated artifacts were not individually documented.

Condition: Some poles are weathered and exhibit 1935 and 1972 date nails; others are relatively unweathered and may be recent replacements of damaged poles. The line is assumed to be in use, although the two houses served by the northern end of the line are abandoned and no longer habitable.

Interpretation: The site is the Red Gap Ranch power distribution line.

Arizona and National Registers of Historic Places Eligibility Evaluation: AZ J:13:37(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46[ASM]) is eligible for inclusion in the ARHP and the NRHP, the associated infrastructure does not provide any information important in history. It consists of common and redundant resources that do not convey the specific period and context under which the ranch itself is considered eligible.
**WESTLAND FIELD SITE NUMBER:** 150

**CULTURAL AFFILIATION:** Euroamerican

**AGE:** Historic/recent (<1968; probably constructed in the 1940s–1950s)

**TYPE/FUNCTION:** Road

**DIMENSIONS:** 1,756.0 m long (recorded portion) by 4 m in width on average

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:** Not eligible

**SITE DESCRIPTION:** AZ J:13:38(ASM) is a graded dirt road that is depicted on the 1968 USGS topographic quadrangles *Tucker Mesa NW* and *Tucker Mesa SW*. The road is part of a network of roads within Red Gap Ranch that was apparently developed by the former owners of the ranch to provide access from the ranch houses. The site extends from the access road of the 1930s Arizona Public Service Company Coconino-to-Winslow 69-kV transmission line in a northwesterly direction. WestLand documented two in-use, maintained segments and one abandoned, washed out segment within the survey area (see Figure 4; Photo 19). The maintained segments have been bladed 13 feet (4 m) wide and from 0 to 4 inches below the natural grade, leaving a low berm of cobbles and soil along their edges. No drainage or water-control features are present. Recent changes to the routing of the access roads in Red Gap Ranch have resulted in the abandonment of segments of this road in favor of other roads. The road is not depicted on the 1921 GLO plat of T20N R13E.

**TOPOGRAPHIC AND ENVIRONMENTAL SETTING:** The road traverses the gently rolling grasslands and sandstone outcrops of Red Gap Ranch at 5,040 to 5,070 feet amsl. The vegetation is dominated by Russian thistle, Indian ricegrass, snakeweed, saltbush, and little sagebrush. Ground visibility is 76 to 99 percent open.

**FEATURES:** Due to changes in the configuration of the roads in Red Gap Ranch and ongoing erosion, WestLand documented two in-use segments and one abandoned segment of this road.

**MATERIAL CULTURE:** One historical shotshell base was recorded as IO 97 along the road, but this artifact appears to pre-date the road’s construction.

**SITE CONDITION:** The road is in use and maintained, except for the middle segment, which has deep (>50 cm) gullies along the roadbed and deep aggradation of sediments in the more level locations. This segment has clearly not be actively used as a road for some years.

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Photo 19. AZ J:13:38(ASM)
**INTERPRETATION:** The site is part of a network of local roads on the Red Gap Ranch. AZ J:13:38(ASM) was formerly the primary route through the northwestern part of the ranch, but has since been replaced by a road (not depicted on the 1968 topographic quadrangles) that extends more directly from the ranch headquarters to the northwest. The alignment of this road with the 1930s powerline (AZ J:13:30[ASM]) suggests that it may have been present before Red Gap Ranch was developed.

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION:** AZ J:13:38(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.
AZ J:13:39(ASM)

WESTLAND FIELD SITE NUMBER: 151

CULTURAL AFFILIATION: Euroamerican

AGE: Historic/recent (<1968; probably constructed in the 1940s–1950s)

TYPE/FUNCTION: Road

DIMENSIONS: 3,248.2 m long (recorded portion) by 4 m in width on average

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Not eligible

SITE DESCRIPTION: AZ J:13:39(ASM) is a graded dirt road that is depicted on the 1968 USGS topographic quadrangles Tucker Mesa NW and Tucker Mesa SW. The road is part of a network of roads within Red Gap Ranch that was apparently developed by the former owners of the ranch to provide access from the ranch houses. The site extends north and northwest from the Red Gap Ranch headquarters before turning west to join with AZ J:13:38(ASM). The road is bladed and in use, but has not been recently graded. WestLand documented the in-use roadbed and one abandoned, washed out segment within the survey area (see Figure 4; Photo 20). Maintained segments have been bladed 13 feet wide and from 0 to 4 inches below the natural grade, leaving a low berm of cobbles and soil along their edges. No drainage or water-control features are present. The road is not depicted on the 1921 GLO plat of T20N R13E.
TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The road traverses the gently rolling grasslands and sandstone outcrops of Red Gap Ranch at 5,040 to 5,070 feet amsl. The vegetation is dominated by Russian thistle, Indian ricegrass, snakeweed, saltbush, and little sagebrush. Ground visibility is 56 to 75 percent open.

FEATURES: One abandoned bend has been captured by a wash and is deeply gullied.

MATERIAL CULTURE: Prehistoric artifacts (IOs 87 and 91) and historical ammunition (IO 91) were observed along the road, but appear to pre-date its construction.

SITE CONDITION: The road is in use but has not been recently maintained. The abandoned segment and much of the northwestern portion of the road have been downcut 20 to 70 cm, with the aggradation of sediments along the more level portions of the roadbed.

INTERPRETATION: The site is part of a network of local roads on the Red Gap Ranch.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: AZ J:13:39(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46[ASM]) is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.
AZ J:13:40(ASM)

WESTLAND FIELD SITE NUMBER: 153

CULTURAL AFFILIATION: Euroamerican

AGE: Historic/recent (<1968; probably constructed in the 1940s–1950s)

TYPE/FUNCTION: Road

DIMENSIONS: 2,935.0 m long (recorded portion) by 3 to 4 m in width on average

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Not eligible

SITE DESCRIPTION: AZ J:13:40(ASM) is a graded dirt road that is depicted on the 1968 USGS topographic quadrangles Tucker Mesa NW and Tucker Mesa SW; it departs from its intersection with AZ J:13:35(ASM) and heads east-northeast toward State Route 99. The road is part of a network of roads within Red Gap Ranch that was apparently developed by the former owners of the ranch to provide access from the ranch houses. WestLand documented an in-use, maintained segment and one segment that is not currently accessible from the ranch due to the road having been washed out where it crossed the spillway of a stock tank dam (see Figure 4; Photo 21). The exceptionally wet monsoon season of 2013 filled all the local tanks and caused both the erosion and aggradation of the roads throughout Red Gap Ranch. The road was previously bladed 10 to 13 feet wide and from 0 to 2 inches below the natural grade, leaving a low berm of cobbles and soil along its edges. No drainage or water-control features are present. Much of the roadbed exposes Moenkopi Formation sandstone. The road is not depicted on the 1921 GLO plat of T20N R13E. It is unknown whether the stock tank dam is contemporaneous with the original development of the road or is a more recent alteration.

Photo 21. AZ J:13:40(ASM)
TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The road traverses the gently rolling grasslands and sandstone outcrops of Red Gap Ranch at 5,040 to 5,070 feet amsl; one segment of the road is constructed across the top of a large stock tank dam. The vegetation is dominated by Russian thistle, Indian ricegrass, snakeweed, saltbush, little sagebrush, and tamarisk. Ground visibility is 76 to 99 percent open.

FEATURES: None

MATERIAL CULTURE: Metal, glass, and flaked stone debitage and tools are present along the road. Trash is sparse and was not individually documented.

SITE CONDITION: The road is in use and maintained, but experienced gullying and aggradation during the summer 2013 monsoon rains. These issues have not been addressed as of the site recording.

INTERPRETATION: The site is part of a network of local roads on the Red Gap Ranch.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: AZ J:13:40(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.
AZ J:13:41(ASM)

WESTLAND FIELD SITE NUMBER: 10

CULTURAL AFFILIATION: Euroamerican

AGE: Historic (probably constructed <1921)

TYPE/FUNCTION: Telephone line

DIMENSIONS: 10,886.6 m in length

(in the survey area)

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:
Undetermined

SITE DESCRIPTION: AZ J:13:41(ASM) is a historical telephone line that follows approximately (but not exactly) the route of a telephone line depicted on the 1921 GLO plats of T19N R14E, T20N R13E, and T20N R14E. Some of the poles are extremely weathered, with splitting, surface checking, and raised grain, and may be original to the initial construction of the line (see Figure 4; Photo 22); others have been replaced, as indicated by their less-weathered appearance and date nails from 1986 and 1997.

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The line traverses the gently rolling grasslands and sandstone outcrops of Red Gap Ranch at 5,040 to 5,070 feet (1,536 to 1,545 m) amsl. The vegetation is dominated by grasses, Russian thistle, snakeweed, saltbush, and little sagebrush. Ground visibility is 30 to 100 percent open.

FEATURES: None. The line consists of wooden poles supporting a single overhead telephone cable (see Photo 26, below).

MATERIAL CULTURE: Broken clear and blue insulators from the previous replacement of the glass insulators with insulated steel clamps; one partial clear insulator is embossed “HEMING[RAY],” the major producer of glass cable insulators in the United States (Whitten 2013). The associated artifacts were not individually documented.

SITE CONDITION: The original poles are heavily weathered. Some replacement poles, including one with a 1997 date nail, are leaning as much as 10 to 15 degrees from vertical. The line is in use and maintained by the successor corporation to Qwest.

INTERPRETATION: The site is an early telephone line in the Little Colorado River Valley.
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: The ARHP and NRHP eligibility of AZ J:13:41(ASM) is uncertain. The site retains integrity of setting, feeling, and association, but may have lost integrity of design and materials due to the ongoing replacement of the poles. Archival research is needed to assess the significance of the line and its integrity of location.
AZ J:13:42(ASM)

**ALTERNATIVE SITE NUMBER:** None

**WESTLAND FIELD SITE NUMBER:** 272

**CULTURAL AFFILIATION:** Native American

**AGE:** Aceramic

**TYPE/FUNCTION:** Artifact scatter/resource procurement

**SITE SIZE:** 183.0 by 142.7 m (26,114.1 m²)

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:** Undetermined

**SITE DESCRIPTION:** AZ J:13:42(ASM) is a moderate-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on a low rise north of the I-40 frontage road (Figure 12; Photo 23). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976).

![Photo 23. AZ J:13:42(ASM)](Q:\jobs\1800's\1822.01\ARC\CRI\Initial Submittal_02-11-14\CRI_RGR_02-11-14.docx)

**TOPOGRAPHIC AND ENVIRONMENTAL SETTING:** The site is on the first level portion of the slope that climbs from a low basin to the west, to a high, level ridge to the east, extending north to a west-flowing drainage. It is at an elevation of 5,015 feet (1,529 m) amsl. A southwest-flowing wash defines the eastern edge of the site, and the western site edge is located where the slope flattens out and no cobbles are present. The site area contains relatively thick silty sandy sediments (more than 50 cm deep as indicated by animal burrows within the site) and selenite deposits over decaying sandstone. The vegetation is very sparse and low, and includes Russian thistle, saltbush, greasewood, snakeweed, and ephedra. Ground visibility within the site boundaries is 76 to 99 percent open.

**FEATURES:** None
Figure 12. Site AZ J:13:42(ASM)
Material Culture: AZ J:13:42(ASM) contains an estimated 250 flaked stone artifacts. WestLand counted 214 tested cobbles and debitage within the site, and analyzed 16 artifacts within the project right-of-way. Additionally, 1 biface, 8 cores, and 3 hammerstones were point located (Table 7). The analyzed artifacts consist of 2 tested cobbles and 13 debitage (5 primary, 5 secondary, and 1 tertiary flake, and 2 shatter) of LCR chert, and 1 quartzite primary flake.

<table>
<thead>
<tr>
<th>PL. No.</th>
<th>Artifact Type</th>
<th>Material</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 bifacial cobble core, measuring 9.3 × 4.2 × 3.3 cm</td>
</tr>
<tr>
<td>2</td>
<td>Battered stone</td>
<td>Quartzite</td>
<td>Cobble hammerstone, heavily battered on one end only; 8.0 × 7.6 × 4.3 cm</td>
</tr>
<tr>
<td>3</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 amorphous core, measuring 6.0 × 4.1 × 3.0 cm</td>
</tr>
<tr>
<td>4</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Early-stage biface proximal fragment, measuring [6.3] × 3.3 × 1.7 cm</td>
</tr>
<tr>
<td>5</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>1 exhausted core/core fragment of lower quality chert, measuring 5.2 × 3.3 × 2.0 cm and 1 LCR chert formal unidirectional core, 6.0 × 5.2 × 3.2 cm, &lt;1 m apart</td>
</tr>
<tr>
<td>6</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Exhausted expedient cobble core, measuring 6.1 × 5.6 × 3.2 cm</td>
</tr>
<tr>
<td>7</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Expedient cobble core, measuring 7.5 × 5.9 × 3.8 cm</td>
</tr>
<tr>
<td>8</td>
<td>Flaked stone</td>
<td>Quartzite</td>
<td>Cobble hammerstone with moderate battering on both ends, measuring 6.5 × 5.4 × 2.7 cm</td>
</tr>
<tr>
<td>9</td>
<td>Flaked stone</td>
<td>Quartzite</td>
<td>Cobble hammerstone with heavy battering around entire circumference, measuring 5.5 × 4.6 × 3.9 cm</td>
</tr>
<tr>
<td>10</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Bidirectional core of very high-quality chert, with one face used for sequence flakes, measuring 5.9 × 4.1 × 2.7 cm</td>
</tr>
<tr>
<td>11</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Exhausted bidirectional cobble core, measuring 5.6 × 4.1 × 2.6 cm</td>
</tr>
</tbody>
</table>

Total artifacts: 12

Site Condition: The site exhibits deep heavy-truck tire ruts from recent utility work. These cross the site from south to north. The artifacts are subject to some alluvial and aeolian erosion. Relatively little windblown trash from Route 66 and I-40 is present across the site compared to the other sites in the vicinity. No other disturbances are apparent.

Interpretation: The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes observed. The presence of three hammerstones is unusual; other Tolchaco sites in the survey area were without any observed hammers.

Arizona and National Registers of Historic Places Eligibility Evaluation: The ARHP and NRHP eligibility of AZ J:13:42(ASM) is uncertain. The site retains integrity of location, setting, and materials, but integrity of association cannot be evaluated based on the observations made during recording. In-field archaeological analysis of a sample of the site is required to evaluate its cultural and temporal affiliation, perhaps through the identification of artifacts or samples that would place the site in time. Furthermore,
the site may contain intact buried deposits and/or features that can address research questions under the context of Lithic Resource Procurement in the Tolchaco Gravels.
Westland Field Site Number: 3

Cultural Affiliation: Euroamerican

Age: Historic (1900–1980s)

Type/Function: Features/waste disposal

Dimensions: 367.8 by 161.9 m (59,546.8 m²)

Arizona and National Registers of Historic Places Eligibility Recommendation: Eligible (D)

Site Description: AZ J:13:43(ASM) is one of two trash disposal locations for Red Gap Ranch containing the remains of multiple individual trash dumps and one multiple-episode dump deposited over many decades (Figure 13; Photo 24).

Topographic and Environmental Setting: The site is located at 5,030 feet (1,533 m) amsl on and around a low Moenkopi sandstone mesa. The vegetation is sparse and consists of Russian thistle, little sagebrush, and grasses. Ground visibility is between 25 and 99 percent.

Features: Seven individual features were identified and documented. All contain diagnostic makers’ marks and other attributes. Each feature was documented at a basic level, but no in-field artifact analysis was conducted during recording, with the exception of Feature 7. Features 5 through 7 are more scattered and fragmented than the other features and may represent older or more disturbed dumps.
Feature 1 is a large, multi-episode dump that measures 68 by 40 m (Photo 25). It contains an estimated 5,000 total items (not including individual glass shards), consisting of 1,500 metal cans, 150 or more bottles (many of which are whole), ceramics, ranching debris (fencing, horseshoes, etc.), and parts of at least two late-1920s to mid-1930s automobiles (the back half of the bodies of two cars, and the cowl and front half of the body to one car, plus fenders and running boards, as well as various body and mechanical parts). Most of the artifacts are concentrated in a 25-m-diameter area, which includes an area of burned trash; it is unclear whether this was burned in place, or was dumped here after being burned elsewhere. Also observed was a stamped piece of decorative sheet metal siding from AZ J:13:44(ASM), where three identical pieces were documented.

Feature 2 is a discrete single-episode dump measuring 12 by 11 m. This dump contains mostly cans (approximately 100), including many quart motor oil cans (1935–1970s; Rock 2000), several auto parts, and approximately five glass bottles, most of which are complete. One motor oil can was embossed “KENDALL MOTOR OIL” and has a faintly visible painted label of the same brand.

Feature 3 is a scattered trash deposit that may represent a single disturbed dump or multiple small dumps along a drainage from the top of the mesa. It measures 73 by 12 m and includes a concentration of mostly broken bottles and ceramics on the mesa top (150 sherds; 300 glass shards of green, cobalt, pale blue/aqua, clear, and brown bottles) and 50 cans and other metal items, as well as some glass, scattered along the drainage. Within the mesa-top concentration WestLand observed a half-size upright pocket tobacco tin, something not previously observed by the recording crew.

Feature 4 consists of ranch trash, including a pile of decaying Moenkopi sandstone, a pile of cut pine branches, 3 loops or tangles of used barbed wire, and a few cow bones. Feature 4 measures 22 by 11 m.

Feature 5 measures 28 by 14 m and consists mostly of broken bottles, including a few thick brown and pale blue bottles (one has the joined “AB” maker’s mark of the American Bottle Company, 1905–1917 [Lockhart 2004a]) that are older than much of the rest of the trash observed at this site. Feature 5 contains an estimated one-thousand shards of green, clear, brown, thick brown, and pale blue/aqua bottle glass, as well as approximately five auto parts, and a few cans (including two cone top beer cans; 1935–1950s [Maxwell 2000]).
Feature 6 contains cans and glass in a scattered dump measuring 37 by 27 m. At least 50 cans and over 400 glass shards (clear, light green, bright green, sun-colored amethyst, brown, and amber) are present.

Feature 7 contains 304 shards from an MNI of 8 glass vessels, no ceramics, and 6 metal items. The glass assemblage includes the remains of two clear vessels (1 jar and 1 flask), two brown beer bottles with crown finishes, 2 brown liquor bottles, 1 bright green pressed glass table setting, and a milk glass cold cream jar with a zinc lid (both the jar and lid are embossed “MUSTEROLE / 10 / CLEVELAND”). The clear jar exhibits the 1920–1964 Hazel-Atlas maker’s mark (Toulouse 2001:239) and the clear flask has a 1947 manufacturing code. One brown liquor bottle has the Obear-Nestor maker’s mark in use from 1915 (Toulouse 2002:374) and a 1949 manufacturing code. The brown beer bottles have fully stippled bases and the 1958–1961 Maywood Glass Company maker’s mark (Toulouse 2001:357) and 1959 manufacturing date code. Three crown caps, 2 flattop steel beer cans (1935–1963; Maxwell 2000), and one dual-electrode automotive spark plug (“A.C. / 59”) are the metal items observed.

MATERIAL CULTURE: WestLand archaeologists analyzed only Feature 7, which contains artifacts manufactured between 1947 and 1959. Other features (especially Features 5 and 6) contain artifacts that were made circa 1905–1920, indicating either disposal of “heirloom” items, or an earlier period of occupation at Red Gap Ranch. Features 1 through 3, 5, and 6 contain glass and ceramic makers’ marks that can provide additional information about the period during which the dump was used, and about the occupation of Red Gap Ranch; other artifacts can inform on the nature of the activities undertaken at the ranch and access to manufactured goods. Like AZ J:13:51(ASM), the other ranch dump identified by this project, AZ J:13:43(ASM) contains some early artifacts (1900–1940), with most of the trash representing activities during the 1940s–1950s; AZ J:13:51(ASM), however, also contains large quantities of materials manufactured from the 1950s to the 1980s, which AZ J:13:43(ASM) does not contain. Based on this, it would appear that AZ J:13:43(ASM) and AZ J:13:51(ASM) were used during the early periods of ranch occupation, but AZ J:13:43(ASM) was abandoned by the early 1960s (no bimetallic beer cans were observed at Site 3 (1963–1980; Maxwell 2000) but are present at AZ J:13:51(ASM).

SITE CONDITION: The site as a whole exhibits little disturbance, other than alluvial and aeolian erosion and the displacement of artifacts. Individual features vary in their condition, with shot and burned artifacts in Feature 1 and broken and scattered artifacts in Features 5 through 7. However, whole cans and bottles are present in Features 1 through 3.

INTERPRETATION: AZ J:13:43(ASM) is one of two identified dumps of household and ranch trash for Red Gap Ranch. AZ J:13:51(ASM) was also utilized for this purpose, but appears to have been used much longer (into the 1980s) than AZ J:13:43(ASM), and has been badly disturbed by a more recent cleanup effort. Both dumps are the same approximate distance from the ranch compound and are over low rises and thus out of view from the ranch houses.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: WestLand recommends that AZ J:13:43(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. The site contains many temporally and functionally diagnostic artifacts that can inform on life at a rural Arizona ranch in the Little Colorado River Valley. In-field analysis examined only one of seven features; additional information about life at Red Gap Ranch (Ranching in Arizona [Statehood to Present]) is available through artifact analysis and the excavation of the deposits at the site.
AZ J:13:44(ASM)

WESTLAND FIELD SITE NUMBER: 8

CULTURAL AFFILIATION: Euroamerican

AGE: Historic (1940s–1950s)

TYPE/FUNCTION: Features with artifacts/roadside commercial property

DIMENSIONS: 141.25 by 134.9 m (19,054 m²)

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Undetermined

SITE DESCRIPTION: AZ J:13:44(ASM) is the former location of a Route 66 roadside commercial property that included a gasoline/service station as well as other structures of undetermined function. Fifteen features are present, including six foundations (Figure 14; Photo 26).

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site is located on a low rise where the Red Gap Ranch access road intersects with Route 66 (see Photo 26). Moenkopi sandstone crops out on the site, which is otherwise covered with shallow deposits of sandstone gravel and silty sand. The site is at 4,885 feet (1,489 m) above mean sea level and is sparsely vegetated with grasses, Russian thistle, winterfat, little sagebrush, and snakeweed. Ground visibility is 76 to 99 percent open.

FEATURES: Fifteen features are present: six foundations, five fencelines, a rock cairn, a large trash dump, a pit feature, and a pile of concrete chunks.

Feature 1 is a poured concrete foundation and floor that is the likely location of an automotive service station. The stem wall is 6 inches in width and extends 116 inches west of the poured floor area (209 by 282 inches), suggesting that some floor segments have been removed; four are intact, each 52 inches in width. The building appears to have had a sheet metal Art Deco façade, as indicated by the presence of three stamped sheetmetal siding elements (two in Feature 5) that are rounded corners with three nested bas relief bands (Photo 27); a fourth identical piece is at AZ J:13:43(ASM).
Figure 14. Site AZ J:13:44(ASM)
Feature 1 is located southeast of the ranch access road intersection with Route 66. Wooden post-and-rail fences extended from the southeastern building corner (Feature 14) to the east and from the northwestern building corner (Feature 14) north, to define parking areas south and west of the structure.

Feature 2 is a circular pit 53 inches in diameter at the ground surface and 24 inches across 8 inches below grade. It contains a 6 by 8 inch wooden timber set upright, with portions of 2 by 4 milled lumber and plywood attached. The bottom of the pit is at least 24 inches below the surface. The function of the feature is unknown, but may be an access to a cesspool or septic tank.

Feature 3 is a masonry foundation (Moenkopi sandstone slabs and concrete mortar) with a partially intact poured concrete floor (the rest of the floor is broken up and scattered east of the feature). No plumbing fixtures are visible, but the size and location of the foundation suggests that Feature 3 may have been the location of a detached restroom.

Feature 4 is the remains of a fenceline that extended westward from Feature 13. Only two broken and disturbed bases are present, one of which may be out of context (Feature 4.2). The bases are too badly damaged to determine the size of the posts that they supported.

Feature 5 is an extensive trash dump in a drainage at the northern edge of the site. It contains at least 300 quart motor oil cans opened with a bayonet spout, indicating that routine automotive service was performed on the site. Additionally, the feature contains: five to 10 flattop steel beer cans (1935–1963, Maxwell 2000), 1 cone top beer can (1935–1950s; Maxwell 2000), more than 20 215 by 315 evaporated milk cans (Simonis 1997 Type 19 [1935–1975]), more than 30 single-serve sanitary cans, crown caps, an automotive air filter housing, a folding metal chair back, a broken toilet, sherds from an earthenware bowl with blue glaze and a white-glazed plate, two decorative stamped metal façade/siding pieces (see Photo 27), 2 1-gallon paint cans, barrel hoops, concrete, masonry, and fire bricks from building demolition, and many glass artifacts. Clear, brown, milk, and green glass vessels are represented by 100s of shards. Diagnostic glass artifacts include a whole clear jar with the 1920–1964 Hazel-Atlas Glass Company maker’s mark (Toulouse 2001); a bright green pop bottle base with the “Duraglas” (post-1940) trademark and 1929–1954 Owens-Illinois Glass Company maker’s mark; a clear “Nesbitt’s of California” ACL pop bottle with Owens-Illinois maker’s mark and 1944 manufacturing code; a clear wide mouth jar with the Owens-Illinois maker’s mark and 1945 manufacturing code; a clear jar with stippled base and “T-in-keystone” maker’s mark of the Knox Glass Company of Mississippi’s Palestine, Texas plant 1941–1953 (Lockhart 2004b); and a clear molded “Delaware Punch” pop bottle with Owens-Illinois maker’s mark and 1944 manufacturing code.

Feature 6 is a partly collapsed cairn of Moenkopi sandstone slabs measuring 54 by 56 inches, and 11 inches in height (2 courses). It is located just east of the ranch access road at the northern edge of the site, and may have defined the end of public-access space, perhaps with a sign.

Feature 7 is a pile of broken poured concrete chunks that exhibit the impression of milled lumber used for the forms. It is unclear if this is a demolition debris dump or in situ remains of an insubstantial feature.
Feature 8 is a partial masonry foundation, with the west and south sides intact, but the east and north sides damaged or removed by grading of Red Gap Ranch access road (Photo 28). The foundation is Moenkopi sandstone slabs with concrete mortar, measuring 106 inches east-west by 101 inches north-south. One piece of milled lumber is associated with the feature.

Feature 9 is a concentration of pieces of a poured concrete slab, in an area 6 m north-south by 5.5 m east-west. The slab was 3 inches thick, and may be in situ, broken up, and represent the remains of an insubstantial ancillary structure; alternatively, the feature is a demolition debris dump.

Feature 10 is the masonry foundation to a small frame building that had windows and a coal-burning stove, as indicated by the broken window glass and coal scattered around the eastern side of the feature. Feature 10 measures 168 inches north-south by 132 inches east-west, with a 44 by 24 inch (probably originally 48 by 24) entry step at the southwestern corner. The western foundation wall has been graded away, leaving the south wall just 120 inches in length. The foundation stands up to 4 inches above grade. The structure was located between the parking area west of the service station (Feature 1) and the possible animal pen (Feature 11), suggesting that it sheltered a proprietor of the property.

Feature 11 is a series of 14 poured concrete fence post supports that define a rectangular pen or space. The individual supports vary from undisturbed and in situ, with post molds for 2-by-4 posts (with the wide face parallel with the fence) or 4½-by-4½ posts, to broken forms. Most appear to be 10 to 12 inches across and 4 to 6 inches deep. An apparent gate opening is present at the southwestern corner. A poured concrete slab, ¾ inch thick and 54 by 54 inches, now broken up, is present at the western edge of the feature (Feature 11.14).

Feature 12 is a masonry and concrete mortar foundation measuring 10 feet east-west by 5 feet north south, and with a floor 6 inches below grade. The feature is situated south of Feature 11. A single porcelain threaded fuse (“ACE / 125 V.”) was found in association, suggesting that electric power was supplied to the feature; the feature’s function is undetermined.

Feature 13 is the remains of a fence line that extended north from the northwestern corner of Feature 1. Three post bases are present; all are broken, and two are pulled from the ground. The north end of the feature appears to be truncated by more recent grading. Post molds indicate 4-by-4 posts supported the fence. Another fence (Feature 4) extended westward from Feature 13.

Feature 14 is the remains of a fence that extended eastward from the southeastern corner of Feature 1. Three poured concrete supports are present for post-and-rail type fence (2 by 4 posts, nominal [3¼ by 1½
actual)); a post fragment is present adjacent to Feature 14.1. The post mold in Feature 14.2 was L-shaped, and measured 6¼ by 5¾ inches.

Feature 15 consists of three closely spaced fence post supports along (parallel) the western side of the ranch access road. The post molds are 4 by 4 inches. The supports are broken and may not be in situ.

**Material Culture:** The site contains an estimated 300 ceramics, 1,000 metal artifacts, 2,000 glass shards, and 40 flaked stone artifacts. 35 flaked stone debitage in a concentration were analyzed in field, consisting of 24 chalcedony shatter, 5 chalcedony secondary flakes, 2 chalcedony tertiary flakes, and 4 chert secondary flakes. The artifacts in Feature 5 (trash dump) were inventoried but not comprehensively analyzed (described above). Many artifacts that are functionally or temporally diagnostic are present across the site, but were not analyzed. Manufacturing date codes observed during recording span 1943–1958; two bottles dated 1967 and 1968 are probably associated with the construction of I-40. Bottles and cans from the 1980s were also observed in Feature 5.

**Site Condition:** The buildings are no longer extant. Some demolition debris is present, either in situ (Feature 7) or within the trash dump (Feature 5). The Red Gap Ranch access road has been widened by grading, cutting into Features 8 and 10. The central portion of the site exhibits bulldozer cuts and push piles, which have impacted Features 11 and 13 and displaced a masonry footer. The poured concrete floors in Features 1 and 3 are broken, and sections of Feature 1 appear to have been mechanically removed. The 1980s cans and bottles in Feature 5 may indicate artifact collecting (bottle hunting) has taken place at the site. The artifacts are subject to alluvial and aeolian displacement.

**Interpretation:** AZ J:13:44(ASM) is the remains of a roadside commercial establishment that featured an automotive service station (as indicated by the hundreds of quart motor oil cans in Feature 5), possible restrooms (Feature 3), an attendant’s kiosk with a coal stove (Feature 10), and tourist attractions, including a possible animal pen (Feature 11). The site was clearly developed by the residents of Red Gap Ranch during the 1940s to attract tourists on Route 66, which the site fronts. The business evidently closed by the late 1950s, as indicated by the diagnostic artifact manufacturing codes; it is not depicted on the 1968 Tucker Mesa SW USGS 7.5′ quadrangle and may have been demolished shortly after closing. No historical photographs, descriptions, or even names of the property have been identified, despite an extensive review of Route 66 resources, including the NPS Route 66 Corridor website and NAU Special Collections.

**Arizona and National Registers of Historic Places Eligibility Evaluation:** The ARHP and NRHP eligibility of AZ J:13:44(ASM) is uncertain. The site retains integrity of location, setting, materials, and association. Archaeological test excavations and archival research are required to evaluate the presence of intact subsurface features and/or deposits that can address questions important in history and to determine the significance of the site under the context of Route 66 in Arizona.
AZ J:13:45(ASM)

**WestLand Field Site Number:** 9

**Cultural Affiliation:** Euroamerican

**Age:** Historic/recent (<1968; probably constructed in the 1940s–1950s)

**Type/Function:** Road

**Dimensions:** 1631.3 m in length by 5 m in width on average

**Arizona and National Registers of Historic Places Eligibility Recommendation:** Not eligible

**Site Description:** AZ J:13:45(ASM) is a graded dirt road that is depicted on the 1968 USGS topographic quadrangle Tucker Mesa SW. The road is the primary access from Route 66 to Red Gap Ranch and is part of a network of roads within Red Gap Ranch that was apparently developed by the former owners of the ranch to provide access to and from the ranch houses *(see Figure 4; see Photo 26, above)*. WestLand documented a single in-use, maintained segment within the survey area, constituting the entire road length. The road has been bladed to 16.5 feet wide (5 m) and from 4 to 6 inches below the natural grade, leaving a low berm of cobbles and soil along its edges. No drainage or water-control features are present. Much of the roadbed exposes Moenkopi Formation sandstone. The road is not depicted on the 1921 GLO plat of T20N R13E.

**Topographic and Environmental Setting:** The road traverses the gently rolling grasslands and sandstone outcrops of Red Gap Ranch at 5,040 to 5,070 feet (1,536 to 1,545 m) amsl. The vegetation is dominated by Russian thistle, Indian ricegrass, snakeweed, saltbush, and little sagebrush. Ground visibility is 76 to 99 percent open.

**Features:** None. The remains of a roadside commercial enterprise at the intersection of AZ J:13:45(ASM) with Route 66 were documented as AZ J:13:44(ASM).

**Material Culture:** The artifacts consist of bimetallic beer cans and clear and brown bottles (two were observed with 1972 manufacturing date codes). Trash is sparse and was not individually documented.

**Site Condition:** The road is in use and maintained.

**Interpretation:** The site is part of a network of local roads on the Red Gap Ranch.

**Arizona and National Registers of Historic Places Eligibility Evaluation:** AZ J:13:45(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.
AZ J:13:46(ASM) – Red Gap Ranch

**Westland Field Site Number:** 14

**Cultural Affiliation:** Euroamerican

**Age:** Historic (1900s–1990s)

**Type/Function:** Features with artifacts/ranch

**Dimensions:** 331.0 by 200.4 m (66,332.2 m²)

**Arizona and National Registers of Historic Places Eligibility Recommendation:** Eligible (A) and (D)

**Site Description:** AZ J:13:46(ASM) is the Red Gap Ranch complex *(Figure 15; Photo 29)*, which includes at least two houses (Features 1 and 9), a garage (Feature 2), corrals and storage buildings (Feature 8), other outbuildings (Features 5 and 6), a water storage tank (Feature 7), an equipment storage yard (Feature 3), and a cistern (Feature 10). The ranch complex is at the center of a web of roads (AZ J:13:35[ASM], AZ J:13:38[ASM], AZ J:13:39[ASM], AZ J:13:40[ASM], AZ J:13:45[ASM], and AZ J:13:54[ASM]) that radiates outward to the far corners of the ranch property and link the complex with associated trash dumps (AZ J:13:43[ASM] and AZ J:13:51[ASM]), Route 66, and a roadside commercial property (AZ J:13:44[ASM]) that was operated by the ranch owners. AZ J:13:46(ASM) also includes a low-density scatter of LCR chert flakes and tools. Ten features are present, including one standing ruin (Feature 4) that may represent the earliest occupation at the ranch.

**Topographic and Environmental Setting:** The site is located near the center of the ranch property, on and around the larger and taller Moenkopi sandstone outcrops on the property and along a large wash channel. The outcrops were utilized as windbreaks for the houses and garage, and to provide water; one deep, natural tinaja was dammed to create a cistern (Feature 10). The rest of the site is covered with shallow deposits of sandstone gravel and silty sand. The site is at 4,995 feet (1,523 m) above mean sea level and is very sparsely vegetated with Russian thistle, greasewood, and winterfat. Heavy use or blading previously cleared the ranch area of vegetation, which is only now beginning to return. Ground visibility is 95 to 100 percent open. The wash was dammed (at an undetermined period) to create a large stock tank south of the site; this was not included in the recorded site.

**Features:** Ten major features are present. These are described below. Features 1, 2, 5, and 6 have biohazard warning signs placed by the City of Flagstaff, warning of the danger of hantavirus and/or hazardous chemicals.
Figure 15. Site AZ J:13:46(ASM)
Feature 1 is a masonry house built in the form of a Navajo Hogan (Photo 30), although it does not face east in the Navajo tradition. Rather, the main door is located between two wings projecting to the northeast and west-northwest, and faces north-northwest. A second door is located in the western end of the west-northwest wing, and is blocked with plywood and milled lumber. The house is octagonal, with a chimney stack on the east-southeast, and a stucco addition on the southwest (possibly a bathroom). The house is built of roughly squared sandstone masonry, with frame rafters, windows and doors; the roof is asphalt shingles, some of which are starting to buckle and lift. Single pane double hung 1-over-1 windows are present in the side walls of the wings, and in the eastern and southern elevations of the house proper; some are intact and some are missing the glazing. An electric service panel is present on the addition, but the fuses have been removed and the distribution wire has been disconnected. Water and sewer pipes are exposed along the foundation at the front of the house. A large table is visible in the main, central room of the house. The house is protected from the wind in the lee of the highest sandstone outcrop, which wraps around Feature 1 from the southeast to the north. The area around the feature is largely devoid of vegetation and artifacts, but does contain scattered pieces of roof shingles. A pile of sandstone chunks is piled northwest of the house, against the sandstone outcrop. A bobcat has taken up residence in the rafters.

Feature 2 is a single vehicle garage at the northeastern edge of the complex. It is a wood frame structure with stucco over board siding on the north, east (front) and south elevations; the back is not stuccoed (Photo 31, in background). The floor is poured concrete, and the rafters are framed as an attic space, with a lumber floor. The roof is corrugated metal sheets. The door, which appears to have been hinged on each side, is missing. The interior is being used for storage by the City of Flagstaff, including items salvaged from other buildings on site (toilet, cabinet with safety vest inside, light fixtures, countertops) and well field items.

Feature 3 is an equipment storage yard behind (west of) Feature 2 (see Photo 31). Although this includes ranching items such as rolls of barbed wire, fence posts, tires, corrals, posts, and cut lumber, the presence of metal pipe, salvaged window frames, wooden pallets, and other items with relatively little weathering suggests that the yard was either developed by, or re-used by the City of Flagstaff. The latter scenario seems likely, as the feature also contains SCA and milk glass and a “VERMONT RAILWAY” sign that indicates past use of the location.

Feature 4 is the ruins of a masonry one room structure that formerly had a gable roof (Photo 32). It features sandstone and limestone blocks or slabs, with protruding wing walls at the northeast corner (projects east) and southeast corner (projects south). Window openings are present in the north and west elevations, with the wooden jambs for a large (garage-type) door in the south elevation, and a typical door in the east elevation. The interior has a concrete floor that appears to have been poured over an earlier, possibly masonry, floor, as it sits higher than the front door threshold. The roof and all fenestration is missing, and the front gable is also gone. An aluminum picnic table is present with the feature. At the rear (north) is a rectangular masonry enclosure containing burned trash and unburned firewood.
Photo 30. Feature 1, masonry house

Photo 31. Feature 2, frame garage and Feature 3, equipment storage yard

Photo 32. Feature 4, masonry ruin
Feature 5 is a nearly square outbuilding with corrugated metal roof and board-and-batten siding, very weathered, with a sandstone foundation (Photo 33). The doorways face east and north; there are no windows. Visible within the shed are a cabinet, pipe, and other metal items that are being stored by the City of Flagstaff.

Feature 6 is a well house and two above-ground fuel tanks (Photo 34). The well house is coursed tabular sandstone on the eastern, southern, and western elevations and lapped wood siding on the north. The corrugated shed roof slopes to the west on lumber rafters. A door and large vent are located in the northern elevation. The well head is within a poured concrete enclosure east of the door, and the pump is within a low masonry enclosure on the east end of the structure, covered with a poured concrete roof. The fuel tanks are supported by steel lattice towers to 5-6 feet above the ground, with filters and filler hoses on the north ends.

Feature 7 is a large steel tank, supported by a cradle of gravel, located between the well house (Feature 6) and the corral (Feature 8) (see Photo 34). A pipe links the pump in Feature 6 with the eastern end of the tank, via a fitting on top. At the western end a vernacular ladder built of 2 by 4 lumber rests against the tank, and is assumed to provide access to an inspection hatch. The pipe and fittings appear to be designed for water, not fuel, suggesting that the tank is used to store water pumped from the well in Feature 6.

Feature 8 is a complex of buildings, corrals and chutes (see Photo 29 above and Figure 15). The buildings are frame with corrugated metal roofs and siding, and are located along the west side of the northern corral; the northern (Feature 8A) is a tack shed, and the southern (Feature 8B) is an open hay barn, which still contains some decaying hay bales, as well as other ranch and well field items. The corrals include a large, square paddock on the north (Feature 8C), and a large rectangular corral to the south (Feature 8D) that is divided into three pens. Feature 8C contains a poured concrete machine pad, a truck loading ramp at the southeastern corner, and a squeeze chute along the eastern side; sheetmetal watering tanks are present at the northeastern corner, adjacent to Feature 7. Feature 8D is open to a fenced pasture at the southwestern corner, and contains a scale that divides the middle and southern pens. As evidenced by the heavy cribbing along the wooden fence slats, horses have been penned in all the corrals, in addition to cattle. The corrals have most recently been utilized for sheep, however, as indicated by the droppings.

Feature 9 is the ruins of the main ranch house, located west of the rest of the complex, in the lee of a low Moenkopi mesa (Photo 35). The house is asymmetrical in floor plan; it generally forms a long, single-story block, but the northern wall runs northeast at a 45-degree angle and a room to the northeast projects at another angle. The house was constructed of coursed tabular sandstone, with the exception of the eastern wall, which is lapped siding. The shed roof is missing, except for the milled lumber rafters, and sloped gently west. The house contained central heating, two bathrooms, a kitchen, and an undetermined number of other rooms. The living room (the projected room) has a large masonry fireplace and chimney stack and featured floor-to-ceiling picture windows facing the Hopi Buttes. Flagstone walks and steps define the eastern approach to the house, and inscriptions in concrete include a brand, “1989” and names, and the inscription: “The –erka’s/ Red Gap Ranch / 23 1981 Jack, Elizabeth / Troy, Travis, Jessie / Blue.”
Photo 33. Feature 5, frame outbuilding

Photo 34. Feature 6 (wellhouse and fuel tanks) and Feature 7 (storage tank)

Photo 35. Feature 9, ranch headquarters ruin
The roof does not appear to have burned, but is missing both the decking and shingles, and the sheetrock on the inside. Aerial imagery available on Google Earth indicates that the roof has been off since at least 2002, if not before. The brand (reverse block capital E to E) is listed in the 2013 Arizona Department of Agriculture Brand Book as number 01169, registered to Nicolas and Edna Acevedo of Rio Rico; brands are registered in Arizona for 5 year intervals, and the Acevedos have apparently owned or leased this brand since 2011. Brand books for non-current years are not archived electronically, but are housed at the Arizona State Archives in Phoenix; consultation of this resource was not undertaken as it is beyond the scope of this project.

Feature 10 is a vernacular cistern constructed in a natural tinaja in the Moenkopi outcrop directly above and northwest of Feature 4 (Photo 36). Sandstone slabs and concrete mortar, with an interior finish coat of concrete sealed with tar were used to dam narrow openings on the north, east, and west and a larger opening on the south to create a reservoir approximately 6 feet deep. No outlet was observed and no water was contained in the cistern at the time of recording. The feature measures approximately 7 by 5 m.

**MATERIAL CULTURE:** AZ J:13:46(ASM) contains relatively little associated trash, likely the result of offsite disposal at two ranch dumps (AZ J:13:43[ASM] and AZ J:13:51[ASM]). The site area also includes a low-density scatter of Tolchaco gravel lithics, including an obsidian projectile point fragment (PL-1). No in-field analysis of the artifacts associated with Red Gap Ranch was undertaken during recording, although the presence of artifacts was noted during the documentation of the features.

**SITE CONDITION:** The buildings are intact (with the exception of Features 4 and 9, ruins), but are exhibiting minor deterioration from weathering and vandalism, such as broken windows, missing doors, and loose roofing panels (Features 1 and 8). Features 2, 5, and 6 remain in use by the City of Flagstaff for the storage of wellfield equipment or water production (Features 6 and 7), and Feature 3 may have been constructed or reused after the property was acquired by the City of Flagstaff.

**INTERPRETATION:** Red Gap Ranch is the remains of a rural Arizona cattle ranch occupied as early as 1900, but primarily from 1940 until around 1990. The site does not include the two isolated dwellings located north of the main complex, which are presumably the residences of ranch hands and their families. These are located outside the present survey area and are spatially separated from the main ranch complex. The Coconino County Assessor maintains three records pertaining to Parcel 406 — 8-001-K, the 2,479.74-acre parcel of private land that contains the ranch house complex. The parcel was granted to Posen Enterprises in 1900, although the date of January 1 suggests that this is the date of registration of a transaction that may have taken place earlier. In 2002, Posen Enterprises (Beatrice Posen and Lynn Posen) sold the parcel
to Red Gap Ranch LLC, a development corporation owned by David Leyvas. In turn, Red Gap Ranch LLC sold the property to the City of Flagstaff in 2010. Two buildings in the ranch are listed by the assessor as residential, subject to property taxes: a house of 637 sq feet that was built in 1957 and a house of 1,528 sq feet built in 1959. Feature 1 is likely to be the first building, and Feature 9 the second, based on estimated square footage. However, despite the presence of some 1900–1940 artifacts, and Coconino County Assessor tax records that indicate occupation as early as 1900, the 1921 GLO plat of T20N R13E does not depict any structures at the location of Red Gap Ranch.

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION:** WestLand recommends that AZ J:13:46(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, design, setting, materials, workmanship, feeling, and association. It contains many temporally and functionally diagnostic artifacts that can inform on life at a rural Arizona ranch in the Little Colorado River Valley (Ranching in Arizona [Statehood to Present]). In-field analysis examined only one of seven features; additional information about life at Red Gap Ranch would be available through artifact analysis and the excavation of the deposits at the site.
AZ J:13:47(ASM)

**Alternative Site Number:** None

**Westland Field Site Number:** 17

**Cultural Affiliation:** Archaic/Anasazi

**Age:** Archaic/Ceramic

**Type/Function:** Rockshelter and thermal features/habitation and resource processing

**Site Size:** 123.0 by 94.8 m (11,660.4 m²)

**Arizona and National Registers of Historic Places Eligibility Recommendation:** Eligible (D)

**Site Description:** AZ J:13:47(ASM) is a rock shelter with an associated midden (Feature 1), a petroglyph panel (Feature 2), and three concentrations of fire-cracked rock within a dense artifact scatter (Features 3 through 5) (*Figure 16*).

**Topographic and Environmental Setting:** Locus A, which contains the rock alcove and petroglyph panel, is located on and within Moenkopi Sandstone outcrops (*Photo 37*). Feature 1 is a low alcove and Feature 2 is a vertical exposure of sandstone; an existing ranch road passes between the two outcrops on which these features are located. Locus B, which includes Features 3 through 5, is on a low, open rise northwest of the outcrops. Grasses (especially Indian rice grass), Russian thistle, and snakeweed are present. Ground visibility is 26 to 51 percent open due to the thick ground cover resulting from the very wet monsoon season of 2013. The site is at an elevation of 5,065 feet (1,544 m) amsl.

*Photo 37. AZ J:13:47(ASM)*
Figure 16. Site AZ J:13:47(ASM)
**FEATURES:** WestLand identified five features consisting of an inhabited rock alcove (Feature 1), a petroglyph panel (Feature 2), and three concentrations of fire-cracked rock and artifacts (Features 3 through 5).

Feature 1 is an east-facing alcove in the side of a low Moenkopi sandstone outcrop. The sheltered area measures 10.90 m wide, 2.51 m deep, and 2.27 m in height, with a midden that extends outward from the alcove 11.3 by 9.6 m. No sooting or rock art was observed in the alcove.

Feature 2 is a single petroglyph panel, pecked into a vertical Moenkopi sandstone face with an aspect of 147 ° magnetic. The panel measures 107 by 35 cm. Approximately half the panel has spalled off of the outcrop due to natural weathering and the friable nature of this stone. A single element and part of one or more other elements remain visible, but are difficult to clearly distinguish (Photo 38).

Feature 3 is a 9-by-4-m concentration of fire-cracked rock within a scatter extending 21 by 14 m. At least 45 burned cobbles are present. Feature 4 is a cluster of approximately 56 burned cobbles in an area measuring 9 by 7 m. Feature 5 is an area of 8 by 6 m that contains an estimated 25 burned cobbles. Features 3 through 5 are within Locus B.

**MATERIAL CULTURE:** AZ J:13:47(ASM) contains 12 point-located artifacts (Table 8; PL-1 through PL-4 are in Feature 1 and PL-5 through PL-12 are in Locus B), 3 jar body sherds of Tusayan Gray Ware (Feature 1), 1 ground stone (PL-4; Feature 1), 2 projectile points (PL-9 and 11; Locus B), 3 bifaces (PL-2 and 3; Feature 1 and PL-10; Locus B), 6 cores or core/tools (PL-1; Feature 1 and PL-5 to 8 and 12; Locus B), and 141 flaked stone debitage. Feature 1 contains 64 pieces of debitage (5 primary, 10 secondary, 17 tertiary, 19 biface-thinning, 4 pressure, 1 core tablet, and 8 angular debris). Locus B contains 77 debitage (4 primary, 41 secondary, 25 tertiary, and 7 biface-thinning), including one secondary flake with lateral scraper use-wear. Locus A raw materials were dominated by LCR chert (n=48), with 7 chalcedony, 6 quartzite, 2 Government Mountain obsidian, and 1 limey chert; Locus B contained 61 LCR chert, 6 fossiliferous chert, 5 limey chert, 4 quartzite, and 1 chalcedony. In both loci, quartzite flakes may have been incidentally struck from hammerstones; the appeal of the limey chert when the very high-quality LCR chert was available is unclear.

Additionally, Feature 1 contains 1 burned small mammal long bone shaft fragment, 1 12-oz. cone top beer can (1935–1950s; Maxwell 2000), 1 12-oz. flattop beer can (1935–1963; Maxwell 2000), a modern 12-oz. brown beer bottle, 5 shards of stippled flat glass, and five pieces of ammunition. Fire arms related artifacts include a spent .22 caliber bullet (not impacted, possibly a mis-fire), 3 .22 caliber rimfire cartridge cases (1 BB Cap “HP” (for High Power, a Federal Cartridge Company brand from 1916 to the present [Goodman 1998]), 1 short “U” (1867–1962; Goodman and Gilpin 2005:161) and 1 with headstamp of “C” (Cascade Cartridge Company, 1960 to present [Goodman and Gilpin 2005:160]), and 1 shotgun shell base with plastic barrel and headstamp “WESTERN / № 20 / SUPER-X” (1940s–1960s; Standler 2006). BB Caps have been manufactured for indoor target shooting since 1845 (Barnes 2000:416). Locus B also contains a shattered clear liquor bottle with threaded top and aluminum cap embossed “Jim Beam,” and a .22 caliber rimfire cartridge case with headstamp “F” (for the Federal Cartridge Company, since 1916 [Goodman and Gilpin 2005:163]).
Table 8. Point-located artifacts, AZ J:13:47(ASM)

<table>
<thead>
<tr>
<th>Pl. No.</th>
<th>Artifact Type</th>
<th>Material</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Burned core fragment, 6.1 × 4.8 × 1.8 cm</td>
</tr>
<tr>
<td>2</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Proximal fragment of intermediate-stage biface, [31 mm long] × 29 mm wide × 7 mm thick</td>
</tr>
<tr>
<td>3</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Proximal fragment of intermediate-stage biface, heat treated, [38 mm long] × 26 mm wide × 9 mm thick</td>
</tr>
<tr>
<td>4</td>
<td>Ground stone</td>
<td>Vesicular basalt</td>
<td>Small, burned mano fragment</td>
</tr>
<tr>
<td>5</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Circular biface/bifacial core, 37 × 33 × 11 mm</td>
</tr>
<tr>
<td>6</td>
<td>Battered/flaked stone</td>
<td>Chert</td>
<td>Hammerstone/core, 5.4 × 4.4 × 3.5 cm</td>
</tr>
<tr>
<td>7</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Primary flake core, 4.7 × 3.0 × 1.0 cm</td>
</tr>
<tr>
<td>8</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Formal unidirectional core, 2.5 × 2.9 × 2.5 cm</td>
</tr>
<tr>
<td>9</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Red/white chert stemmed dart point, 23 × 17 × 5 mm (Photo 39 [over])</td>
</tr>
<tr>
<td>10</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Late state biface/point preform distal fragment, 14 mm long × 20 mm wide × 4 mm thick</td>
</tr>
<tr>
<td>11</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Arrowpoint (?) made on flake blank, with deep corner notches, 27 × 19 × 2 mm (Photo 40 [over])</td>
</tr>
<tr>
<td>12</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Expedient cobble core, 8.0 × 7.4 × 5.4 cm</td>
</tr>
</tbody>
</table>

Total artifacts: 12
In addition to artifacts that were documented within the site loci, WestLand observed some scattered artifacts within the site boundaries. These include a .22 caliber short rimfire cartridge case with headstamp “F” (1916–present; Goodman and Gilpin 2005), a broken pale blue bottle with base embossed “Videria Monterey [date unknown Toulouse 2001] LICORERIA ROYAL S DE R L / MEXICO D.F.” (approximately 10 shards), 1 upright pocket tobacco tin lid, and 10 sherds from a clear ACL pop bottle.

SITE CONDITION: The site has been visited, as evidenced by historical ammunition and historical and recent bottles and beer cans, but there is no obvious vandalism or looting. A ranch road has been bladed through the site, between Features 1 and 2; however, only two pieces of lithic debitage were observed in the road, and no features were exposed. Feature 2 is badly spalled, with approximately half of the panel now fallen.

INTERPRETATION: Features 1 and possibly 2 appear to represent Ceramic period Anasazi features, with Feature 1 a seasonal or short term habitation and Feature 2 a rock art panel. Locus B contains no ceramics and several dart points, suggesting that it is an Archaic period resource processing site. The presence of a corner-notched arrow point within Locus B suggests that the Anasazi visited this component, possibly to acquire lithic debitage for use in making tools.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: WestLand recommends that AZ J:13:47(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association and appears likely to contain intact buried
deposits and/or features that can address research questions under the context of Prehistoric Settlement and Subsistence in the Little Colorado River Valley.
AZ J:13:48(ASM)

ALTERNATIVE SITE NUMBER: None
WESTLAND FIELD SITE NUMBER: 20
CULTURAL AFFILIATION: Native American
AGE: Aceramic
TYPE/FUNCTION: Rockshelter and artifact scatter/temporary habitation
SITE SIZE: 43.3 by 20.9 m (905 m²)
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Undetermined

SITE DESCRIPTION: AZ J:13:48(ASM) is a dense scatter of flaked stone and ground stone artifacts along the base of a low Moenkopi sandstone outcrop (Figure 17; Photo 41). Three low alcoves are present in the outcrop above the artifact scatter, although none exhibit any other evidence of habitation. Two of the alcoves (A and B) do not appear to contain any sediments.

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site is located at 5,040 feet (1,537 m) amsl on and within the western side of a low Moenkopi Sandstone outcrop. The vegetation in and near the site consists of Russian thistle, greasewood, saltbush, snakeweed, and grasses (especially Indian rice grass). Ground visibility is 51 to 75 percent open.
Figure 17. Site AZ J:13:48(ASM)
FEATURES: Three natural alcoves in the sandstone outcrop could provide temporary shelter.

Alcove A measures 4.3 m wide, 2.2 m deep, and 1.4 m high. No soot on the alcove ceiling or artifacts within the alcove to indicate that it had been used for habitation.

Alcove B measures 3.15 m wide, 1.25 m deep, and 1.25 m high and is located immediately north of Alcove A. Like Alcove A, Alcove B contains no smoke blackening or artifacts; however, artifacts extend west-northwest from the mouth of this feature.

Alcove C is located south of the other two alcoves, and higher in the outcrop, with a low sandstone shelf forming the alcove floor. The roof has collapsed. The alcove is currently 4.0 m wide, 2.8 m deep, and 1.6 m high. Two artifacts, including a shaft straightener (PL-8), were found in the alcove. The collapsed roof could conceal intact cultural deposits.

MATERIAL CULTURE: AZ J:13:48(ASM) contains 8 point-located artifacts (Table 9) and 63 pieces of lithic debitage. Most of the flakes are made from the locally prevalent Little Colorado River chert (8 primary, 12 secondary, 17 tertiary, 13 biface-thinning, and 3 pressure flakes and 3 angular debris). However, 4 quartzite (1 primary, 1 secondary, and 2 tertiary flakes), 2 petrified wood (1 primary and 1 secondary flakes), and 1 limey chert tertiary flake were also present. Part of a clear wide mouth jar threaded finish and three historical ammunition cases were also observed: one low brass shotgun shell base with “REMINGTON-UMC” embossed on the shaft and headstamp “REM-UMC / № 10 / NITRO CLUB” (1911–1934; Goodman and Gilpin 2005) a low brass shotgun shell base “WINCHESTER / № 12 / RANGER / MADE IN U.S.A.” (after 1925; Goodman 1998) and a .22 caliber rimfire with headstamp “H” (a trademark of the Winchester Repeating Arms Company since 1866 [Goodman and Gilpin 2005:163) were also observed.

<table>
<thead>
<tr>
<th>PL No.</th>
<th>Artifact Type</th>
<th>Material</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>White chert core, 4.7 × 4.3 × 3.0 cm</td>
</tr>
<tr>
<td>2</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Burned distal biface fragment [18 mm long] × 24 mm wide × 5 mm thick</td>
</tr>
<tr>
<td>3</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Unidirectional cobble core (with one bifacial flake scar), 5.6 × 5.6 × 3.1 cm</td>
</tr>
<tr>
<td>4</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Amorphous core 5.2 × 4.7 × 3.4 cm</td>
</tr>
<tr>
<td>5</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Primary flake core 6.2 × 4.7 × 2.6 cm</td>
</tr>
<tr>
<td>6</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Burned amorphous core 6.3 × 3.9 × 3.2 cm</td>
</tr>
<tr>
<td>7</td>
<td>Battered stone</td>
<td>Quartzite</td>
<td>Cobble hammerstone, 7.4 × 5.2 × 3.0 cm</td>
</tr>
<tr>
<td>8</td>
<td>Ground stone</td>
<td>Andesite</td>
<td>Cobble shaft straightener, measuring 6.9 × 5.0 × 3.8 cm, with a groove 19 mm wide × 8 mm deep and well-polished; the bottom surface is slightly polished as well ([Photo 42 above])</td>
</tr>
</tbody>
</table>

Table 9. Point-located artifacts, AZ J:13:48(ASM)
SITE CONDITION: The site has been visited, as evidenced by historical ammunition, historical and recent bottles and beer cans, but there is no obvious vandalism or looting. The roof of Alcove C has fallen, although it is unclear what effect this has had on site condition. There are no other apparent disturbances.

INTERPRETATION: The site appears to represent a temporary camp at which cores were further reduced during the manufacturing and repair of bifacial tools, as indicated by flakes of non-local petrified wood. Based on the presence of several burned lithic artifacts, a hearth may be present on the site. It is apparently not located in Alcoves A or B, which lack smoke sooting on the ceilings. The ceiling of Alcove C is no longer visible.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: The ARHP and NRHP eligibility of AZ J:13:48(ASM) is uncertain. The site retains integrity of location, setting, feeling, and materials, but lacks integrity of association due to the absence of temporally diagnostic artifacts. Archaeological testing is recommended to evaluate the association of the site, perhaps through the recovery of artifacts or samples that would place the site in time. Furthermore, the site may contain intact buried deposits and/or features that can address research questions under the context of Prehistoric Settlement and Subsistence in the Little Colorado River Valley.
AZ J:13:49(ASM)

**ALTERNATIVE SITE NUMBER:** None

**WESTLAND FIELD SITE NUMBER:** 36

**CULTURAL AFFILIATION:** Archaic or Basketmaker

**AGE:** Aceramic (probably Late Archaic/Early Agricultural)

**TYPE/FUNCTION:** Masonry cist and artifact scatter/storage and temporary habitation

**SITE SIZE:** 40.7 by 29.2 m (1,188.4 m²)

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:** Undetermined

**SITE DESCRIPTION:** AZ J:13:49(ASM) is a masonry cist (Feature 1) within a rock alcove and an associated artifact scatter (*Figure 18; Photo 43*).

**TOPOGRAPHIC AND ENVIRONMENTAL SETTING:** The site is within a slightly sheltered embayment in a low outcrop of Moenkopi Sandstone that faces west. Feature 1 is built within a low alcove on a shelf of sandstone; the alcove faces northwest. The site is at an elevation of 5,210 feet (1,588 m) amsl. The vegetation is low, and includes saltbush, little sagebrush, ephedra, snakeweeds, Russian thistle, globe mallow, Indian ricegrass, and other grasses. Ground visibility within the site boundaries (which include
Figure 18. Site AZ J:13:49(ASM)
mostly sandstone outcrops or bare soil) is 76 to 99 percent open. Pinflag probes indicate that sediments are very shallow, only 5 to 10 cm above bedrock.

**FEATURES:** Feature 1 is made of irregular Moenkopi Sandstone chunks, seven courses in height (70 cm), forming a roughly circular enclosure 135 by 90 cm ([Photo 44](#)). No mortar is present. The structure was constructed on a sandstone shelf 40 cm above the present ground surface within a low sandstone alcove that measures 3.3 m across, 1.4 m high, and 1.1 m deep from the dripline to the back of the alcove. The shelf extends a maximum of 2.0 m from the back of the alcove. A broken piece of wooden lath is present below the feature, the only indication that the site has been visited; however, there is no evidence to suggest that the structure was constructed to support the lath.

![Photo 44. Feature 1, masonry cist](#)

**MATERIAL CULTURE:** AZ J:13:49(ASM) contains 9 artifacts: 1 ground stone, 1 core, and 7 debitage. The ground stone (PL-1) is a whole metasandstone or quartzite slab metate with peck marks on the use face (unifacial), measuring 16.5 by 14.0 by 4.7 cm. The core is expedient and made from Kaibab chert. It measures 6.5 by 3.9 by 1.5 cm. The lithic debitage (1 primary, 2 secondary, 3 tertiary, and 1 biface-thinning flakes) includes a tertiary flake of opaque, matte, black obsidian, and 6 flakes of Little Colorado River chert of various colors.

**SITE CONDITION:** The site appears undisturbed. The heavy rains during the summer of 2013 may have exposed some or all of the artifacts observed, although the sediments appear very shallow.
INTERPRETATION: Feature 1 appears to be a small storage cist. The presence of ground stone suggests that the site was used as a seasonal or temporary camp, possibly associated with plant harvesting and processing. As such, it may be a part of larger landscape or logistical foraging.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: The ARHP and NRHP eligibility of AZ J:13:49(ASM) is uncertain. The site retains integrity of location, setting, and materials; however, archaeological test excavations are recommended to evaluate the significance and association of the site and to determine whether intact buried features and/or deposits are present that could address questions important in prehistory.
AZ J:13:50(ASM)

ALTERNATIVE SITE NUMBER: None
WESTLAND FIELD SITE NUMBER: 75
CULTURAL AFFILIATION: Archaic
AGE: Archaic
TYPE/FUNCTION: Artifact scatter/resource procurement
SITE SIZE: 292.1 by 167.4 m (48,897.5 m²)
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Eligible (D)

SITE DESCRIPTION: AZ J:13:50(ASM) is an extensive low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools. It has two loci: Locus A is on gently undulating ground in a low saddle and Locus B is to the east on top of a low mesa of Moenkopi sandstone (Figure 19; Photo 45). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976; Spurr 2005).

Photo 45. AZ J:13:50(ASM)

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site is on gently rolling grasslands and low mesas at an elevation of 4,965 feet (1,494 m) amsl. The vegetation is sparse and low, and includes saltbush and grasses. Ground visibility within the site boundaries is 76 to 99 percent open. Pinflag probes indicate that sediments are very shallow, only 0 to 10 cm above Moenkopi Sandstone bedrock.
Figure 19. Site AZ J:13:50(ASM)
FEATURES: None. Two concentrations were mapped as Locus A and Locus B.

MATERIAL CULTURE: AZ J:13:50(ASM) contains an estimated 500 flaked stone artifacts. WestLand analyzed in field 63 lithics and 1 historical low brass shotshell base (“REM-UMC / № 12 / SURSHOT” [1911–1934; Goodman and Gilpin 2005]) in the rights-of-way of three roads that intersect within the site to form a triangular intersection. These include 3 cores, 4 tested cobbles, and 55 debitage (26 primary, 16 secondary, 12 tertiary and 1 angular debris) of LCR chert, and 1 quartzite tertiary flake. Additionally, six tools were point-located (Table 10).

<table>
<thead>
<tr>
<th>PL No.</th>
<th>Artifact Type</th>
<th>Material</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flaked stone</td>
<td>Chert</td>
<td>Heavily reworked stemmed dart point (Armijo?), measuring 35 mm long × 16 mm wide × 7 mm thick (Photo 46)</td>
</tr>
<tr>
<td>2</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Intermediate-stage biface, poorly thinned, 49 × 27 × 8 mm</td>
</tr>
<tr>
<td>3</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Early-stage biface made on a primary flake blank, 38 × 37 × 15 mm</td>
</tr>
<tr>
<td>4</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Distal biface fragment (not measured)</td>
</tr>
<tr>
<td>5</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Intermediate-stage distal biface fragment, [22] × 31 × 9 mm</td>
</tr>
<tr>
<td>6</td>
<td>Flaked stone</td>
<td>Kaibab chert</td>
<td>Stemmed dart point, missing only the tip, [27] × 17 × 5 mm (Photo 47)</td>
</tr>
</tbody>
</table>

Total artifacts 6

Photo 46. PL-1, reworked stemmed dart point

Photo 47. PL-6, stemmed dart point
SITE CONDITION: The site is bisected by three bladed dirt roads, which expose bedrock 0 to 5 cm below the surface. Artifacts may have been horizontally displaced by aeolian and alluvial erosion.

INTERPRETATION: AZ J:13:50(ASM) is a typical Tolchaco lithic-procurement site at which lag deposits of high-quality Little Colorado River chert cobbles and pebbles were exploited as a lithic-procurement source. Although the presence of two Archaic-style dart point indicates that the site was utilized during this period, previous research has demonstrated that Tolchaco sites are often a palimpsest resulting from expedient procurement from Paleoindian (or earlier) times to the Historic period (Keller and Wilson 1976; Whiting et al. 2011).

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: WestLand recommends that AZ J:13:50(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only 14 percent of the observed artifact assemblage. Additional information regarding Lithic Resource Procurement in the Tolchaco Gravels, including the association and lithic-reduction strategies used at the site, may be available through the analysis of the remainder of the assemblage.
AZ J:13:51(ASM)

WESTLAND FIELD SITE NUMBER: 82

CULTURAL AFFILIATION: Euroamerican

AGE: Historic (1900–1980s)

TYPE/FUNCTION: Features/waste disposal

DIMENSIONS: 126.2 by 114.4 m (14,437.3 m²)

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Eligible (D)

SITE DESCRIPTION: AZ J:13:51(ASM) is one of two trash disposal locations for Red Gap Ranch and contains the remains of multiple individual trash dumps deposited over many decades (Figure 20; Photo 48).

Photo 48. AZ J:13:51(ASM)

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site is located at 5,010 feet amsl on and around a low Moenkopi sandstone outcrop. The vegetation is sparse and consists of Russian thistle, little sagebrush, ragweed, grasses and snakeweed. Ground visibility is between 76 and 99 percent.

FEATURES: Five individual features were identified and documented. Only Feature 1 was examined in detail during recording.

Feature 1 is a small, individual episode trash dump located within the project right-of-way along the road from the ranch compound north (AZ J:13:39[ASM]). The feature was fully analyzed in the field. It contains at least 187 glass shards from and MNI of 8 vessels and one whole glass marble, 71 ceramic sherds from an MNI of 2 vessels, 107 metal artifacts, coal ash, chert and quartzite gravels, and 1 chert primary flake. The marble is blue/gray, opaque, hand-made and exhibits heavy use-wear. The glass vessels include an amethyst pressed glass table setting (n=10), aqua window glass that is 3/16 and 3/8-inch thick (n=65), a brown bottle (n=36), a clear pitcher (only the handle was observed), and the remains of three clear vessels, including a jug, a milk bottle, and an ACL pop bottle. One clear vessel had a fully stippled base with the Owens-Illinois Glass Company maker’s mark and 1945 manufacturing code;
Figure 20. Site AZ J:13:51(ASM)
another had the “Duraglas” trademark (post-1940) and no stippling (Whitten 2013). The third clear vessel was unmarked. The ceramic sherds represent the remains of two undecorated earthenware plates or bowls (vessel form was difficult to determine due to the small size of the pieces), one of which had a white glaze, and the other of which had a cream glaze. Metal artifacts were dominated by common wire nails (n=76) in a variety of sizes: 1, 2, 2½, 3, 3½, 4½, and 6 inches (or 2d, 6d, 8d, 10d, 16d, 30d, and 60d in pennyweight), and roofing nails. Additionally Feature 1 included 17 single-serving size sanitary cans, 3 crown caps, 2 sections of household plumbing pipe (iron), 2 upright pocket tobacco tins, 2 meat cans with key-wind score strip openings, 1 spice shaker can lid, a piece of barbed wire, a wire screen door latch, a cast iron cookstove top fragment, and a shotshell base with headstamp “PETERS / MADE IN U.S.A. / P [around primer] / 12 / H.V” (1887–1934; Goodman and Gilpin 2005:160; Standler 2006 asserts that the Peters brand remained in manufacture by Remington until the late 1960s, but the use of a paper wrap and the tarnished condition suggest that this dates to the earlier period).

Feature 2 is a very dense dump of 1960s–1980s trash outside the right-of-way. The dump is undisturbed. Feature 3 is a concentration of glass shards from bottles that appear to have been used for target practice at this location, which abuts a low Moenkopi sandstone outcrop. Feature 3 contains thousands of small bottle shards. Feature 4 is a glass concentration—including historical glass insulators—within the bulldozed part of the site. Feature 5 is an undisturbed dump of scrap metal, possibly from a ranch workshop, that also includes two toy cars with trademark dates of 1979 (“Matchbox”) and 1974 (“Hot Wheels”).

**MATERIAL CULTURE:** WestLand archaeologists analyzed only Feature 1, the only feature within the project right-of-way. AZ J:13:51(ASM) contains an estimated 1,000 ceramic sherds, 2,000 metal artifacts, and 20,000 glass shards. Additionally, approximately 10 prehistoric flaked stone artifacts were noted, and one ceramic, part of a Tusayan Gray Ware jar. The site contains many temporally diagnostic bases of clear, aqua, green and brown bottles, and some functionally and temporally diagnostic metal artifacts. During recording, some artifacts manufactured circa 1900–1940 were observed, but most of the assemblage appears to have been produced from the 1940s to the 1980s. Association with the ranch is indicated by the presence of at least 5 horse shoes. Unusual artifacts include the approximately five brown injection vials (small bottles with a rubber cap secured with a metal band) with the bases marked “FRANKLIN PHARMACUTICLES,” perhaps indicating that a past ranch resident was undergoing treatment for diabetes, or other condition that required frequent injections.

**SITE CONDITION:** The central portion of the site was damaged when a bulldozer was used to collect, pile, and bury much of the trash within the site. WestLand mapped an extensive area of mechanical blading, push piles, and a large mound of trash, rock, and dirt; some of the trash may have been hauled offsite. Features 1 through 3 and 5 appear to be undisturbed, other than breakage/weathering and some sheetwashing of the artifacts downslope. The attempted cleanup of the site appears to have taken place since the ranch ceased operations.

**INTERPRETATION:** AZ J:13:51(ASM) is a main dump of household and ranch trash for Red Gap Ranch; AZ J:13:43(ASM) was also utilized for this purpose, but appears to contain less material than AZ J:13:51(ASM). Both dumps are at the same approximate distance from the ranch compound and are over low rises and thus out of view from the ranch houses.
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: WestLand recommends that AZ J:13:51(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. It contains many temporally and functionally diagnostic artifacts that can inform on life at a rural Arizona ranch in the Little Colorado River Valley (Ranching in Arizona [Statehood to Present]). In-field analysis examined only one of five features; additional information about life at Red Gap Ranch would be available through artifact analysis and the excavation of the deposits at the site.
AZ J:13:52(ASM)

ALTERNATIVE SITE NUMBER: None
WESTLAND FIELD SITE NUMBER: 85
CULTURAL AFFILIATION: Anasazi
AGE: Ceramic (Pueblo II-III)
TYPE/FUNCTION: Rockshelter and artifact scatter/habitation and resource processing
SITE SIZE: 53.0 by 30.6 m (1,621.2 m²)
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Undetermined

SITE DESCRIPTION: AZ J:13:52(ASM) is an alcove in a Moenkopi sandstone outcrop (Feature 1) and an associated artifact scatter on the slope below (Figure 21; Photo 49).

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site covers the gentle slope between Cow Canyon Wash (which has captured an old ranch road in this location [AZ J:13:39(ASM)]) and a low ridge/outercrop of Moenkopi sandstone. Feature 1, a low alcove in the outcrop, faces east, overlooking the artifact scatter. Grasses (especially Indian rice grass), snakeweed, saltbush, little sagebrush, and Russian thistle are present. Ground visibility is 26 to 50 percent open due to the thick ground cover resulting from the very wet monsoon season of 2013. The site is at an elevation of 4,970 feet (1,515 m) amsl.
Figure 21. Site AZ J:13:52(ASM)
FEATURES: Feature 1 measures 3.8 m wide, 1.85 m deep, and reaches a maximum height of 65 cm. It faces east, overlooking Cow Canyon. The alcove interior contains no smoke sooting or other evidence of habitation (some desert varnish is present, however), but two chunks of charcoal are visible. The soil in front of the alcove is not ashy or midden-like, but does contain a relatively dense scatter of ceramics, flaked stone, and ground stone artifacts.

MATERIAL CULTURE: All the artifacts within AZ J:13:52(ASM) were analyzed in field and consist of 34 sherds, 71 flaked stone debitage, 3 tools, 1 ground stone, and 2 metal items. The ceramics represent an MNI of seven vessels: a Flagstaff Black-on-white bowl (n=1; A.D. 1150–1220 [Hays-Gilpin and van Hartesveldt 1998:116]); a Woodruff Smudged bowl (n=6; A.D. 500–1000 [Hays-Gilpin and van Hartesveldt 1998:151]), an Early Angell bowl (n=1; A.D. 1064–1400 [Goetz and Mills 1993]), a Moenkopi Corrugated jar (n=1), a Tusayan Corrugated jar (n=1; A.D. 1040–1300+ [Hays-Gilpin and van Hartesveldt 1998:123]), a Tusayan White Ware jar (n=3), and a Tusayan Gray Ware bowl (n=12). Nine Tusayan Gray Ware jar body sherds and 10 Tusayan White Ware bowl body sherds are probably from the vessels described above.

The flaked stone assemblage consists of 6 primary, 30 secondary, 22 tertiary, and 5 biface-thinning flakes, and 8 angular debris, including one quartzite secondary flake with possible lateral margin use-wear. Little Colorado River chert (n=47) is the most abundant raw material utilized at this site; other materials include chalcedony (n=20), quartzite (n=3), and basalt (n=1). The three flaked stone tools were point-located, and consist of: a quartzite hammerstone (PL-2) that exhibits heavy battering and some incidental negative flake scars, measuring 9.0 by 7.7 by 5.5 cm; an amorphous core of low-quality limey chert (PL-3) with some edge battering, measuring 7.8 by 5.0 by 3.6 cm; and an exhausted chert flake core (PL-4) made on a primary flake blank, measuring 6.9 by 4.2 by 2.0 cm. The single ground stone artifact (PL-1) is a vesicular basalt cobble mano fragment with light wear polish on one face; it measures 11.0 cm in length, 5.5 cm in width, and 4.5 cm in thickness. The metal artifacts are a key-wind can lid fragment, and a 6 to 8-oz. steel beverage can with an aluminum pull-ring opening.

SITE CONDITION: Cow Canyon Wash has captured the old alignment of ranch road AZ J:13:39(ASM), which is now downcut over 1 m in places, exposing bedrock. This has accelerated gullyng on the site, although this is still a minor disturbance. The site has been visited, as evidenced by historical ammunition and cans, but there is no obvious vandalism or looting.

INTERPRETATION: Feature 1 is too low and shallow to have been inhabited, even on a short-term basis, yet the artifact scatter clearly originates from the alcove opening, and the diversity and density of the assemblage suggest that the site functioned as a habitation. In this respect, the site is similar to others encountered by this project, suggesting a landscape-level pattern of seasonal or logistical foraging for resources.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: The ARHP and NRHP eligibility of AZ J:13:52(ASM) is uncertain. The site retains integrity of location, setting, materials, and association; however, archaeological test excavations are recommended to evaluate the significance and
association of the site and to determine whether intact buried features and/or deposits are present that could address questions important in prehistory.
AZ J:13:53(ASM)

**ALTERNATIVE SITE NUMBER:** None

**WESTLAND FIELD SITE NUMBER:** 118

**CULTURAL AFFILIATION:** Archaic

**AGE:** Archaic

**TYPE/FUNCTION:** Artifact scatter/resource procurement

**SITE SIZE:** 132.5 by 116.9 m (15,489.3 m²)

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:** Undetermined

**SITE DESCRIPTION:** AZ J:13:53(ASM) is a low-density scatter of Little Colorado River chert cobbles, cores,debitage, and tools located on an open flat surrounding two small ephemeral playas (Figure 22; Photo 50). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976).

Photo 50. AZ J:13:53(ASM)

**TOPOGRAPHIC AND ENVIRONMENTAL SETTING:** The site is on an open flat, with most of the artifacts located around the edges of two small playas. The vegetation is sparse and low, and includes Russian thistle, grasses, and snakeweed. Ground visibility within the site boundaries is 76 to 99 percent open. Sediments within the site are silty sands. The site is at an elevation of 4,900 feet (1,494 m) amsl.

**FEATURES:** None
Figure 22. Site AZ J:13:53(ASM)
**MATERIAL CULTURE:** WestLand identified 1 Archaic dart point (PL-1), 3 flaked stone tools, and 86 debitage within the site, of which 47 flakes that fell within the project rights-of-way were analyzed in the field. PL-1 is the proximal fragment of a stemmed basalt dart point, measuring [24 mm in length], 22 mm in width, and just 3 mm in thickness *(Photo 51)*. Two cores were identified (PL-2 and 3). PL-2 is a bifacial/discoidal core of LCR chert, measuring 5.7 by 5.4 by 2.5 cm. PL-3 is a fragment of a chalcedony core (dimensions not collected). PL-4 is a complete early-stage biface of LCR chert, measuring 6.3 by 4.8 by 2.0 cm. The debitage (2 primary, 8 secondary, 10 tertiary, 24 biface-thinning flakes and 3 angular debris) is predominantly LCR chert (n=42), with chalcedony (n=4) and quartzite (n=1) also present.

**SITE CONDITION:** AZ J:13:53(ASM) has been disturbed by the construction of a bladed access road to an existing well north of the site, extending from the I-40 frontage road, which is located outside the site’s southern boundary. There are no other apparent disturbances.

**INTERPRETATION:** The site assemblage contains a relatively high percentage of interior flakes, especially biface-thinning flakes, which suggests that it is the locus of biface and/or tool manufacturing from prepared cores or bifaces of LCR chert. Such sites are typically associated with hunting, as weapons are prepared or repaired while waiting on game.

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION:** The ARHP and NRHP eligibility of AZ J:13:53(ASM) is uncertain. The site retains integrity of location, setting, materials, and association; however, archaeological test excavations are recommended to evaluate the significance and association of the site and to determine whether intact buried features and/or deposits are present that could address questions important in prehistory. Furthermore, the in-field analysis of the artifacts examined only 57 percent of the observed artifact assemblage. Additional information regarding Lithic
Resource Procurement in the Tolchaco Gravels, including the association and lithic-reduction strategies used at the site, may be available through the analysis of the remaining 43 percent of the assemblage.
AZ J:13:54(ASM)

**WestLand Field Site Number:** 152

**Cultural Affiliation:** Euroamerican

**Age:** Historic/recent (<1968; probably constructed in the 1940s–1950s)

**Type/Function:** Road

**Dimensions:** 1,091.0 m long (recorded portion) by 4 m in width on average

**Arizona and National Registers of Historic Places Eligibility Recommendation:** Not eligible

**Site Description:** AZ J:13:54(ASM) is a graded dirt road that is depicted on the 1968 USGS topographic quadrangle Tucker Mesa SW. The road is part of a network of roads within Red Gap Ranch that was apparently developed by the former owners of the ranch to provide access from the ranch houses. The site extends westward from the ranch headquarters between a large Moenkopi Formation sandstone outcrop and an extant ranch building (Feature 5). The road climbs a low ridge and drops gradually into a basin, in which it joins the alignment of AZ J:13:38(ASM) (see Figure 4; Photo 52). WestLand documented the entire road, which is in use and maintained by blading to 13 feet wide and from 0 to 4 inches below the natural grade, leaving a low berm of cobbles and soil along its edges. No drainage or water-control features are present. Recent changes to the routing of the access roads in Red Gap Ranch have emphasized the maintenance of this road at the expense of AZ J:13:38(ASM), which has been abandoned between the Arizona Public Service powerline and its intersection with AZ J:13:54(ASM). The road is not depicted on the 1921 GLO plat of T20N R13E.

![Photo 52. AZ J:13:54(ASM)](image-url)
TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The road traverses the gently rolling grasslands and sandstone outcrops of Red Gap Ranch at 5,040 to 5,070 feet amsl. The vegetation is dominated by Russian thistle, Indian ricegrass, snakeweed, saltbush, and little sagebrush. Ground visibility is 76 to 99 percent open.

FEATURES: None

MATERIAL CULTURE: Trash is sparse and was not individually documented. Metal, glass, and prehistoric flaked stone artifacts (including IO 160) were observed along the 120-foot-wide right-of-way surveyed along this road.

SITE CONDITION: The road is in use and maintained. The only observed disturbance is minor surface gullying.

INTERPRETATION: The site is part of a network of local roads on the Red Gap Ranch.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: AZ J:13:54(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46[ASM]) is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.
AZ J:13:55(ASM)

**ALTERNATIVE SITE NUMBER:** None

**WESTLAND FIELD SITE NUMBER:** 198

**CULTURAL AFFILIATION:** Anasazi (?)

**AGE:** Ceramic (Pueblo III-IV)

**TYPE/FUNCTION:** Artifact scatter/unknown

**SITE SIZE:** 151.2 by 92.3 m (13,955.8 m²)

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:** Undetermined

**SITE DESCRIPTION:** AZ J:13:55(ASM) is a scatter of flaked stone, ceramic, and ground stone artifacts, with three concentrations of artifacts or collectors’ piles recorded as features (Features 1 through 3) *(Figure 23; Photo 53).*

![Photo 53. AZ J:13:55(ASM)](image)

**TOPOGRAPHIC AND ENVIRONMENTAL SETTING:** The site is located on a slightly undulating bench of Moenkopi sandstone overlooking a larger wash valley to the north and is at an elevation of 4,955 feet (1,510 m) amsl. The vegetation in and near the site is very sparse, and consists of grasses, Russian thistle, winterfat, snakeweed, and little sagebrush. Ground visibility is 76 to 99 percent open.

**FEATURES:** Three concentrations of artifacts (one with a sandstone slab feature) were recorded as features. Feature 1 is located outside the project rights-of-way and was not analyzed in detail; Features 2 and 3 are within the survey area and were fully analyzed.
Figure 23. Site AZ J:13:55(ASM)
Feature 1 contains nine Moenkopi sandstone slabs that are flat-lying, but positioned to form a roughly triangular pavement measuring 181 by 128 cm (Photo 54). Along the east edge of the slabs is a dense deposit of artifacts in an area of 192 by 117 cm, including an estimated 150 flaked stone, 1 quartzite hammerstone, and 1 Tusayan Gray Ware sherd. Most of the lithics are made from the locally available LCR chert, although two are black, opaque obsidian. Clustered along the northern edge of the slabs is a concentration of 41 Tusayan Corrugated jar body sherds, 2 Tuwiuca Orange bowl body sherds (late 1200s–late 1300s), and 7 flakes in an area 130 by 85 cm. A bifacial vesicular basalt mano fragment was found at the southwestern corner of the slab feature; it measures 10.4 by 7.5 by 2.5 cm, and has moderate to heavy use polish. The function of Feature 1 is unknown, but could be either a storage feature from the ceramic period, or a collection of items created during the construction of a nearby well in recent times.

Feature 2 is concentration of 70 flaked stone artifacts in an area measuring 132 by 70 cm, although most of the artifacts were found within a 60 by 40 cm area (Photo 55). These consist of 3 bifaces, a bifacial core, 2 tested cobbles, and 64 debitage (20 primary, 29 secondary, 13 tertiary, and 1 biface-thinning flake and 1 angular debris). All the artifacts in Feature 2 were made from LCR chert with the exception of a single primary flake of fine-grained quartzite. The bifaces included one very early-stage biface, possibly a distal fragment, measuring 29 by 31 by 9 mm, and two early-stage biface proximal fragments ([20] by 25 by 10 mm and [29] by 51 by 11 mm). Feature 2 may be a prehistoric or protohistoric collection, similar to three features recorded on nearby Site J:13:56(ASM), north of the wash.

Feature 3 is a concentration of cores and tested cobbles that appears to be eroding from the edge of the slope above Well MW-2W. It measures 135 by 65 cm, and consists of 9 tested cobbles, 3 cores, and 2 debitage (1 primary and 1 secondary flake) of LCR chert. The cores include an amorphous core (5.6 by 4.6 by 2.9 cm), a unidirectional flake core (6.9 by 4.4 by 1.9 cm) and a unidirectional cobble core (5.8 by 3.1 by 2.1 cm). Debitage covers the slope below Feature 3, but was not analyzed as part of the concentration; the flakes appear, however, to originate with the feature.
**Material Culture:** AZ J:13:55(ASM) contains 150 artifacts that were not analyzed, a complete, circular quartzite unifacial mano (PL-2; 7.6 by 7.0 by 3.1 cm), and an intermediate-stage biface distal/medial fragment (PL-1; [21] by 27 by 11 mm). The site contains an estimated 300 artifacts in total, including those that were analyzed in field during this project. Handstones of the type of PL-2 are typical of Archaic period occupations, suggesting that the site may represent multiple components.

**Site Condition:** The site has been heavily impacted by activities associated with developing Red Gap Ranch as a water well field, including the drilling of two wells (MW-2W and ETW-2) within the site, and the associated bladed well pads, two rectangular pits (sumps?), and a bladed road through the site. Furthermore, the unusual concentration of artifacts recorded as Feature 1 may represent collection and redeposition of artifacts from one or more well pads during construction, most likely in the vicinity of Well ETW-2. Feature 2 may also represent a collector’s pile, but is more likely to have been accumulated in prehistoric or protohistoric times, as it is located away from the edges of disturbed areas.

**Interpretation:** AZ J:13:55(ASM) contains a sparse scatter of unmodified Tolchaco cobbles, but a relatively large number of flaked stone artifacts, suggesting that it may be the locus of core and tool production activities, using raw materials procured from the much larger gravel scatters to the south (AZ J:13:15[ASM]) and north (AZ J:13:56[ASM]). The presence of a one-hand circular (“biscuit”) mano suggests that this took place during the Archaic period. Subsequently, the site was visited during the Ceramic period as evidenced by the remains of two pots in Feature 1 (assuming that the sherds were not collected from other sites and redeposited here). Feature 2, a collection of flakes and tools, may have been created at this time. Ceramic period (and Protohistoric period) peoples are documented to have utilized the large waste flakes and cores of earlier aceramic sites as lithic raw material procurement loci (Spurr 2005).

**Arizona and National Registers of Historic Places Eligibility Evaluation:** The ARHP and NRHP eligibility of AZ J:13:55(ASM) is uncertain. The site retains integrity of location and setting, and possibly association. Archaeological testing is recommended to evaluate the integrity of the materials and to confirm the cultural and temporal affiliation of the site, perhaps through the recovery of artifacts or samples that would place the site in time. Furthermore, the site may contain intact buried deposits and/or features that can address research questions under the context of Prehistoric Settlement and Subsistence in the Little Colorado River Valley. Feature 1 could cover an intact storage feature or cache from the Ceramic period.
**AZ J:13:56(ASM)**

**ALTERNATIVE SITE NUMBER:** None

**WESTLAND FIELD SITE NUMBERS:** 199/201

**CULTURAL AFFILIATION:** Native American

**AGE:** Aceramic

**TYPE/FUNCTION:** Artifact scatter/resource procurement

**SITE SIZE:** 1,048.8 by 650.6 m (recorded portion of site; boundary incomplete) (682,349.3 m²)

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:** Eligible (D)

**SITE DESCRIPTION:** AZ J:13:56(ASM) is a high-density scatter of Little Colorado River chert cobbles and pebbles, cores, debitage, and tools located on a low mesa and broad alluvial flat (*Figure 24; Photo 56*). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976). WestLand defined the site boundaries west of the existing north-south range fence, but did not attempt to follow the site to the east, as this is outside the present survey area.

**TOPOGRAPHIC AND ENVIRONMENTAL SETTING:** The site boundaries correspond with Tolchaco gravel deposits across the level surface of a low Moenkopi sandstone mesa, and a broad alluvial flat below, which contains numerous small playas; many of the artifacts are clustered along the playa edges or across the open playa surfaces. Silty sand and decomposing Moenkopi sandstone gravels of undetermined depth are present beneath the site. The site is at an elevation of 4,955 feet (1,510 m) amsl. The vegetation is open grassland, and includes grasses, Russian thistle, snakeweed, winterfat, and saltbush. Ground visibility within the site boundaries is 51 to 76 percent open.

**FEATURES:** Three dense concentrations of artifacts were identified and mapped as features; a detailed in-field analysis of the artifacts was not undertaken. The three features are located at the southwestern end of the site and are only 10 to 20 m apart; they may represent more recent (Ceramic or Protohistoric period) collecting of debitage rather than being chipping stations.

Feature 1 contains approximately 21 LCR chert lithic debitage in a 50-cm-diameter area. Feature 2 is a concentration of at least 55 LCR debitage in a 30-cm-diameter area. Feature 3 consists of about 20 LCR chert debitage, 1 bifacial core or early-stage biface, and 1 intermediate-stage biface blank fragment in a 50-cm-diameter area.
**Material Culture:** No artifacts were analyzed in the field during site recording. The site contains thousands of tested cobbles, debitage, and other flaked stone artifacts of LCR chert and quartzite. During the course of defining the site, three artifacts or artifact clusters were point located. PL-1 is a heavily reworked stemmed dart point measuring 27 mm in length, 20 mm in width, and 4 mm in thickness (*Photo 57*). It was made from a dark gray, opaque obsidian and was found in the bladed road through the southwestern portion of the site. PL-2 is a four-hole milk glass shirt button with a transfer print blue/green design measuring 28 lignes (7/8 inch) in diameter. PL-3 is a pot break consisting of 7 Moenkopi Corrugated jar body sherds in a 3-m-diameter area.

**Site Condition:** The site exhibits moderate disturbance from a number of sources, including three bladed roads across the site and a barbed wire range fence. Artifacts are subject to minor alluvial and aeolian displacement. No other apparent disturbances were observed. The eastern portion of the site was not defined, although the condition is expected to be similar.

**Interpretation:** The site is a typical Tolchaco gravel lithic-procurement site.

**Arizona and National Registers of Historic Places Eligibility Evaluation:** WestLand recommends that AZ J:13:56(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, and materials and contains considerable data regarding the past use of primary Tolchaco gravel sites that have yet to be collected and analyzed under the context of Lithic Resource Procurement in the Tolchaco Gravels; documentation of the site to date has been cursory and was focused primarily on elucidating the site boundaries within the survey area, with no systematic analysis of the artifacts. Further investigation may establish the complete site boundaries and cultural and temporal affiliation of the site, both of which have yet to be identified.
AZ J:13:57(ASM)

WESTLAND FIELD SITE NUMBER: 223

CULTURAL AFFILIATION: Native American/Euroamerican

AGE: Aceramic/Historic (1920s–1930s)

TYPE/FUNCTION: Artifact scatter/resource procurement and waste disposal

DIMENSIONS: 127.4 by 67.5 m (8,599.5 m²)

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Not eligible

SITE DESCRIPTION: The site is a lithic scatter and railroad trash dumps located within a larger scatter of historical and recent trash associated with Route 66 and I-40, much of which has been transported by aeolian processes to the present location (Figure 25; Photo 58).

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: Feature 1, the larger of the two dumps, is located in a small drainage below a pourover that comes off of the edge of a low Moenkopi sandstone outcrop; the other dump and scattered artifacts are scattered across the gently sloping outwash fan below. The site is located at 4,995 feet (1,523 m) amsl. The vegetation is sparse and consists of Russian thistle, grasses, globemallow, and snakeweed. Ground visibility is between 76 and 99 percent.
Figure 25. Site AZ J:13:57(ASM)
FEATURES: Feature 1 is a trash dump located outside the project right-of-way below a sandstone pourover (Photo 59). Because about half of the artifacts from this dumping episode have washed out onto the flat below, and mixed with more recent wind-borne artifacts, the concentrated portion of the feature was analyzed in field. It contains at least 90 glass shards from an MNI of 19 vessels, 46 ceramic sherds from an MNI of 7 vessels, 70 metal artifacts from an MNI of 53 objects, and coal ash. The glass vessels include 8 clear bottles, 1 clear jug, and ¼ inch thick plate glass (n=7); 2 SCA bottles and 1 sun-colored amethyst pressed glass table setting (n=3); 1 brown bottle (n=10), 2 pale blue bottles (n=2, including half of a crown finish quart beer); a natural bottle (PL-2); and a complete cobalt jar, embossed with nested triangles, a dot to the left and “119.” Few bottles had diagnostic marks. One clear bottle base was embossed “KERR GLASS MFG. CO. / [SAND SPRINGS] OKLA / PAT / AUG 31 / 1915” and one clear bottle base is marked “H. J . HEINZ / 25 / [Owens Glass Company maker’s mark prior to 1929] / PAT.” A partial base mark on another clear bottle is “[CALIFORNIA / CONSERV— / S. F.” The clear jug base is embossed “PACKED / BY / CAL. PACK CORP.” PL-2 is a green base marked with a devil figure and “PLUTO” below. PL-2 is the base to a bottle of “Pluto Water,” a popular laxative made from natural water from the Pluto Springs in French Lick, Indiana (Wikipedia 2013b). Pluto Water was popular from the early 20th century until sales were halted in 1971, due to the high lithium content; lithium was listed as a controlled substance in that year. Lastly, the sun-colored amethyst catsup bottle (nearly complete; PL-3) is embossed “J. HEINZ / 341 / PAT.”
The ceramic sherds represent the remains of: one undecorated earthenware plate (n=20) and one bowl (n=3); a porcelain table setting (sugar bowl?) with an underglaze lithograph decoration (n=1) and a porcelain table setting with molded decoration (n=1); 2 porcelain vessels with the same blue oriental transfer design (a shallow bowl [n=3] and a tea cup [n=1]); a porcelain plate with a floral design (n=1); a vitreous bowl with a multi-color underglaze design and a painted overglaze band that separates color blocks (n=8). The only base mark, “MADE IN JAPAN,” was on the shallow porcelain bowl. Section 304 of the Tariff Act of 1930 requires imported goods to label the Country of Origin (COO), so the porcelain bowl likely dates after the passage of this law (Wikipedia 2013c).

Metal artifacts were dominated by evaporated milk cans (n=15), of which only one was intact enough to be measured (215 by 405 [probably actually 404]; Simonis Type 10 [1917–1929]). Other metal items include 9 single-serve sanitary cans, 9 can scraps, 4 rectangular or square fuel or oil cans (1 has a soldered on threaded brass neck); 4 drums (1 is 10 inches in diameter, 2 are crushed and 1 is a scrap); 3 woodstove parts (a damper plate, a square section rod [possibly for the damper control], and a fixture [possibly part of a vent]); 3 pieces of cookware (2 enamelware kettles and 1 pot or kettle lid); 2 lard pails; 2 upright pocket tobacco tins; and 2 quart motor oil cans (“MOTOR OIL / SAE / 20;” motor oil was canned between 1933 or 1935 and the 1970s [Rock 2000]). Single examples were noted of a carriage bolt, a threaded hook, a 5-inch spike and a railroad spike, a crushed galvanized bucket, a pointed shovel blade, a rectangular volatile fluids can (embossed “CANCO”), a hinge, a rub rail, a metal tube, a cable run, and automotive seat springs. In addition to the railroad spike, the presence of a galvanized 2-gallon oil can embossed “A.T. & S.F. R. Y.” (PL-1) indicates that the trash originated with the railroad to the south of the site (Photo 60).

Feature 2 is a much smaller dump, containing 31 shards from 5 vessels (including 9 additional shards of the clear plate glass), no ceramics, and at least 6 metal items. The glass items include 9 shards from a clear ink bottle, 11 shards from a pale blue patent medicine bottle with “BURNETT” embossed along one edge and “BU[RNETT] / [S]TAND[ARD] / EX[TRACT]” on the front panel, a threaded finish to a pale blue bottle or jug, and a clear molded “SQUEEZE” pop bottle missing only the finish. Patent medicines were banned under the Pure Food and Drug Act of 1906 (Whitten 2013). “Squeeze” was a pop brand introduced in 1912 in Mexico, later rebranded as “Escuis” (Wikipedia 2013d). Metal artifacts consist of 2 upright pocket tobacco tins, tiny scraps from a single disintegrating cast or forged iron object, the lid to a pressurized canister, a crushed sanitary can, a cast iron hook (part of a piece of heavy machinery) exhibiting heavy use-wear on the inside surfaces of the hook, and a 1-gallon rectangular can with soldered...
seams and spout and the “Shell Oil Company” eponymous scallop valve emblem embossed on the face (possibly antifreeze or motor oil).

**Material Culture:** WestLand archaeologists analyzed only the in situ portion of Feature 1 and Feature 2, the only feature within the project right-of-way. AZ J:13:57(ASM) contains an estimated 20 flakes of LCR chert, which are widely scattered; these were not analyzed. The site contains an estimated 75 historical ceramic sherd, 200 historical metal artifacts, and 200 glass shards. In addition to the point-located artifacts documented in Feature 1 (PL-1 to PL-3), three other objects were point located elsewhere on the site. PL-4 is a large “Log Cabin” maple syrup can, PL-5 is a 1-gallon oil can embossed with the AT&SF name, and PL-6 is a milk glass shirt button with 2 holes, 16 lignes (16/32 inch) in diameter. PL-1 and PL-5 would have been used by locomotive engineers to oil moving parts on locomotives and other railroad rolling stock.

**Site Condition:** The site has been heavily disturbed by alluvial and aeolian erosion, resulting in the displacement of nearly half of the materials deposited in Feature 1, and by the introduction of large quantities of more recent cans to the site from Route 66 and I-40. Feature 1 included an aluminum can lid with a pull ring and three bimetallic beverage cans (1963–1980). The site is to the lee of a low mesa, and windblown trash obviously collects along the mesa edge and in the basin in which the site is located.

**Interpretation:** AZ J:13:57(ASM) is a dump from an early AT&SF Railroad camp or operation, as indicated by both the industrial items and the household serving vessels. The objects in the dumps were manufactured between circa 1905 and the early 1930s. Feature 1 may date to the early 1930s or represent multiple dumping episodes during the 1910s–1930s; based on the design of the clear pop bottle, Feature 2 may date to the 1920s.

**Arizona and National Registers of Historic Places Eligibility Evaluation:** AZ J:13:57(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, and association, but has lost integrity of materials due to erosion, the displacement of a significant percentage of the assemblage, and its admixture with more recent artifacts that lack context. The site is unlikely to contribute information beyond what was collected through in-field analysis.
AZ J:13:58(ASM)

**ALTERNATIVE SITE NUMBER:** None  
**WESTLAND FIELD SITE NUMBER:** 227  
**CULTURAL AFFILIATION:** Native American  
**AGE:** Aceramic  
**TYPE/FUNCTION:** Artifact scatter/resource procurement  
**SITE SIZE:** 145.4 by 82.7 m (120,245.8 m²)  
**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:** Not eligible

**SITE DESCRIPTION:** AZ J:13:58(ASM) is a low-density scatter of Little Colorado River chert cobbles, cores,debitage, and tools located on an open flat and wash that flows northeasterly *(Figure 26; Photo 61).* The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976).

**TOPOGRAPHIC AND ENVIRONMENTAL SETTING:** The site is on an open flat, with silty sand and decomposing Moenkopi sandstone gravels of undetermined depth, but no visible sandstone outcrops on site. The vegetation is sparse and low, and includes saltbush, little sagebrush, Russian thistle, grasses and snakeweed. The site is at an elevation of 5,005 feet (1,526 m) amsl. Ground visibility within the site boundaries is 76 to 99 percent open.
FEATURES: None

MATERIAL CULTURE: WestLand identified 99 flaked stone artifacts and 4 historical metal items, of which 2 flaked stone tools, 7 tested cobbles, 1 core fragment, 62 debitage (33 primary, 20 secondary, and 6 tertiary flakes and 3 angular debris), and the 4 metal artifacts were within the project rights-of-way and were analyzed in field. With the exception of one quartzite tested cobbble, all the flaked stone artifacts were made from the locally available LCR chert. The two tools (PL-1 and PL-2) are both cores: 1 amorphous LCR chert core measuring 9.5 by 6.7 by 5.0 cm and a bifacially reduced flake core fragment of LCR chert with unifacial use-wear on one margin measuring 5.0 by 3.6 by 1.1 cm. The cans include 2 hole-in-cap cans with machine-soldered seams (post-1875 [Rock 2000]), a lard pail fragment, and a can with lapped and soldered seams; all were found crushed and in poor condition. Additionally, the site area is covered with historical/recent roadside trash from Route 66 and I-40, which are located a short distance south of the site.

SITE CONDITION: The site exhibits little apparent disturbance, although the I-40 frontage road passes near its southern boundary, a bladed dirt road is immediately west of the site, and a historical telephone line crosses the site east-west (AZ J:13:41[ASM]). Furthermore, the wash channel appears to have been modified downstream of the site with a low dike, although this has been breached.

INTERPRETATION: The site assemblage indicates a typical Tolcaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but few bifaces or finished tools observed.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: AZ J:13:58(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, and materials, but lacks integrity of association. It is unlikely to contribute information beyond what was collected through in-field analysis, as the majority of the assemblage was examined during recording.
AZ J:13:59(ASM)

ALTERNATIVE SITE NUMBER: None
WESTLAND FIELD SITE NUMBER: 233
CULTURAL AFFILIATION: Anasazi
AGE: Ceramic (Pueblo II)
TYPE/FUNCTION: Artifact scatter/resource procurement
SITE SIZE: 140.3 by 52.0 m (7,295.6 m²)
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Not eligible

SITE DESCRIPTION: AZ J:13:59(ASM) is a low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on an open flat north of the I-40 frontage road (Figure 27; Photo 62). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976).

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site is at an elevation of 5,070 feet (1,545 m) amsl on an open flat, with silty sand and decomposing Moenkopi sandstone gravels of undetermined depth, but no visible sandstone outcrops. The vegetation is very sparse and low, and includes grasses, Russian thistle, cholla, plains prickly pear, and saltbush. Ground visibility within the site is 76 to 99 percent open.
Figure 27. Site AZ J:13:59(ASM)
FEATURES: None

MATERIAL CULTURE: The site contains 7 sherds, 4 cores, 14 tested cobbles (13 LCR chert and 1 quartzite), 111 flaked stone debitage (65 primary, 36 secondary, 6 tertiary, and 2 biface-thinning flakes), and 1 thrown horse shoe (with fullers but no cauls). Ten artifacts or artifact concentrations were point located (Table 11). All the artifacts were analyzed in field. With the exception of one quartzite tested cobbles, 4 quartzite primary flakes (derived from the cobbles), and 1 chalcedony primary flake, all the flaked stone artifacts were made from the locally available LCR chert. Additionally, the site area is covered with historical/recent roadside trash from Route 66 and I-40, which are located a short distance south of the site.

Table 11. Point-located artifacts, AZ J:13:59(ASM)

<table>
<thead>
<tr>
<th>PL No.</th>
<th>Artifact Type</th>
<th>Material</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ceramic</td>
<td>–</td>
<td>1 Escavada Black-on-white jar body sherd (A.D. 1000–1130; Hays-Gilpin and van Hartesvelt 1998)</td>
</tr>
<tr>
<td>2</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Amorphous flake core, measuring 7.0 × 3.5 × 2.4 cm</td>
</tr>
<tr>
<td>3</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 bifacial cobbles core, measuring 7.0 × 5.6 × 2.4 cm</td>
</tr>
<tr>
<td>4</td>
<td>Ceramic</td>
<td>–</td>
<td>Holbrook B Black-on-white bowl body sherd (A.D. 1050–1150; Hays-Gilpin and van Hartesvelt 1998)</td>
</tr>
<tr>
<td>5</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>Amorphous cobbles core, 5.5 × 3.9 × 2.4 cm</td>
</tr>
<tr>
<td>6</td>
<td>Flaked stone</td>
<td>LCR chert</td>
<td>1 amorphous core, measuring 4.6 × 4.0 × 4.0 cm</td>
</tr>
<tr>
<td>7</td>
<td>Ceramic</td>
<td>–</td>
<td>Sherd scatter 2 m in diameter: 3 Holbrook B Black-on-white bowl body sherds and 1 Holbrook A Black-on-white bowl body sherd (A.D. 1050–1150; Hays-Gilpin and van Hartesvelt 1998)</td>
</tr>
</tbody>
</table>

Total artifacts 10

SITE CONDITION: AZ J:13:59(ASM) exhibits little apparent disturbance, although the I-40 frontage road passes along the southern site boundary and a historical telephone line crosses the site east-west (AZ J:13:41[ASM]).

INTERPRETATION: The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed.

ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION: AZ J:13:59(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, materials, and association, but is unlikely to contain intact subsurface features and/or deposits, and is not considered a significant resource. The site is unlikely to contribute information beyond what was collected through in-field analysis.
AZ J:13:60(ASM)

ALTERNATIVE SITE NUMBER: None
WESTLAND FIELD SITE NUMBER: 270
CULTURAL AFFILIATION: Native American/Euroamerican
AGE: Aceramic/Historic (ca. 1937)
TYPE/FUNCTION: Artifact scatter/resource procurement
SITE SIZE: 690.3 by 287.9 m (198,737.4 m²)
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Undetermined

SITE DESCRIPTION: AZ J:13:60(ASM) is a low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on a low rise north of the I-40 frontage road (Figure 28; Photo 63). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976).

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site covers a low, level Moenkopi sandstone rise, between a larger drainage on the west, and a low basin to the east, extending north to a west-flowing drainage. Site area contains thin silty sandy sediments over decaying sandstone. The vegetation is very sparse and low, and includes Russian thistle, grasses, saltbush, snakeweed, and narrowleaf yucca. Ground visibility within the site boundaries is 76 to 99 percent open. The site is at an elevation of 5,015 feet (1,529 m) amsl.

FEATURES: At the extreme western end of the site is a historical trash scatter recorded as Feature 1. It measures 30 m in diameter, and contains 5 flattop steel beer cans (1935–1963; Maxwell 2000), 10 sardine tins with key-wind openings and embossed “NORVEGE,” 2 upright pocket tobacco tins, 3 single-serving sanitary cans, a clear injection vial with the Owens Glass Company logo (1911–1929; Toulouse 2001:393), brown and clear shards (approximately 100), and a broken pocket watch. The site appears to be an informal rest stop associated with Route 66. This segment was built 1937.

MATERIAL CULTURE: AZ J:13:60(ASM) contains approximately one-thousand flaked stone artifacts and 25 tools. While delineating the site boundaries, WestLand observed 1 biface fragment, 2 cores, and 124 pieces of lithic debitage. No artifacts were analyzed during the recording of the site. Additionally, the site area is covered with historical/recent roadside trash from Route 66 and I-40, which are located a short distance to the south.
Figure 28. Site AZ J:13:60(ASM)
**SITE CONDITION:** The site exhibits some disturbance, as the southern site boundary is truncated by the I-40 frontage road (and possibly by I-40). Additionally, the site is crossed by a north-south bladed dirt road in its western half, and a historical telephone line crosses the site east-west (AZ J:13:41[ASM]). Some alluvial and aeolian erosion is evident and has displaced surface artifacts. Windblown trash from Route 66 and I-40 is present across the site, especially nearest the highway right-of-way and Feature 1. No other disturbances are apparent.

**INTERPRETATION:** The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes observed. The historical component is a late 1930s roadside rest area associated with Route 66, possibly with its construction in 1937.

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION:** The ARHP and NRHP eligibility of AZ J:13:60(ASM) is uncertain. The site retains integrity of location, setting, and materials, but integrity of association cannot be evaluated based on the observations made during recording. In-field archaeological analysis of a sample of the site is required to evaluate its cultural and temporal affiliation, perhaps through the identification of artifacts or samples that would place the site in time. Furthermore, the site may contain intact buried deposits and/or features that can address research questions under the context of Lithic Resource Procurement in the Tolchaco Gravels. The historical component is unlikely to contain any intact subsurface features or deposits and is regarded as non-contributing to the NRHP eligibility of the site.
AZ J:13:61(ASM)

ALTERNATIVE SITE NUMBER: None
WESTLAND FIELD SITE NUMBER: 280
CULTURAL AFFILIATION: Anasazi
AGE: Ceramic (Pueblo II)
TYPE/FUNCTION: Artifact scatter/resource procurement
SITE SIZE: 196.2 by 101.3 m (19,875.1 m²)
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Undetermined

SITE DESCRIPTION: AZ J:13:61(ASM) is a dense scatter of ceramics and Little Colorado River chert cobbles, cores, debitage, and tools without any visible habitation features (Figure 29; Photo 64). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976).

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site covers a low, level Moenkopi sandstone ridge, and a playa flat to the west and is at 4,955 feet (1,510 m) amsl elevation. The site area contains very thin silty sandy sediments over decaying sandstone on the ridge top (0 to 5 cm thick sediments) and silty sand of an undetermined depth in the playa area. The vegetation is very sparse and low, and includes saltbush, snakeweed, grasses, and Russian thistle. Ground visibility within the site boundaries is 76 to 99 percent open.

FEATURES: None

MATERIAL CULTURE: AZ J:13:61(ASM) contains an estimated 200 ceramics, 150 flaked stone artifacts and 6 tools; no ground stone was observed. WestLand observed and analyzed 185 sherds from an MNI of 9 vessels, 6 cores or tools (Table 12 [over]), and 114 tested cobbles or debitage. The ceramics included the remains of a Tusayan Corrugated jar (n=59), a Holbrook B Black-on-white bowl (n=39) and a Holbrook B Black-on-white jar (n=1), a Sosi Black-on-white bowl (n=35) and a Sosi Black-on-white jar (n=15), a Holbrook A Black-on-white bowl (n=5), a Little Colorado Gray Ware Indented Corrugated (n=3), and a Black Mesa Black-on-white bowl (n=2). Undecorated sherds of Little Colorado White Ware (n=7),
Figure 29. Site AZ J:13.61(ASM)
Tusayan White Ware (n=10), and Tusayan Gray Ware (n=9) undoubtedly derive from one of the vessels described above. The debitage (39 primary, 58 secondary, and 8 tertiary flakes) and tested cobbles (n=9) are mostly made from the locally available LCR chert (n=102), with some use of quartzite (n=7) and chalcedony (n=5). Two pieces of metal are steel strapping from bundles of metal fence posts. The ceramics indicate an occupation at the transition from the Early to the Late Pueblo II, circa A.D. 1000–1100 (Hays-Gilpin and van Hartesvelt 1998:47, 48).

| PL No. | Artifact Type | Material  | Comments                                              |
|--------|---------------|-----------|                                                      |
| 1      | Flaked stone  | LCR chert | 1 exhausted amorphous core, measuring 5.5 × 4.0 × 2.5 cm |
| 2      | Battered stone| LCR chert | Expedient primary flake core, measuring 4.8 × 3.2 × 2.2 cm |
| 3      | Flaked stone  | LCR chert | Expedient primary flake core, measuring 6.2 × 3.9 × 2.7 cm |
| 4      | Flaked stone  | LCR chert | 1 bifacial cobble core, too small to really reduce, measuring 5.6 × 3.4 × 1.1 cm |
| 5      | Flaked stone  | LCR Chert | An early-stage biface proximal fragment, later reworked as a small oval biface, measuring 4.2 × 3.3 × 1.0 cm |
| 6      | Flaked stone  | LCR chert | Bifacial expedient cobble core, measuring 5.9 × 4.0 × 2.9 cm |
|        |               |           | Total artifacts                                       | 6 |

**SITE CONDITION:** A bladed road and a range fence bisect the site; the road exposes sandstone bedrock 0 to 5 cm below the surface along the ridge. Alluvial erosion and aggradation are actively displacing artifacts, especially in the playa portion of the site. No other disturbances are apparent.

**INTERPRETATION:** The site assemblage includes what appears to be a typical Tolchaco gravel lithic-procurement locus, as well as the remains of a number of ceramic vessels, including decorated bowls and jars. Such an assemblage would typically be regarded as a signature of habitation if the site also contained ground stone; however, ground stone and any physical indication of habitation are lacking. Archaeological testing is required to evaluate the nature and significance of this unusual site.

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION:** The ARHP and NRHP eligibility of AZ J:13:61(ASM) is uncertain. The site retains integrity of location, setting, materials, and association. In-field analysis of the site established its cultural (Anasazi) and temporal (Pueblo II) affiliation, but archaeological testing is required to determine the nature and significance of the occupation. The site may contain intact buried deposits and/or features in the playa area that can address research questions under the context of Prehistoric Settlement and Subsistence in the Little Colorado River Valley.
AZ J:13:62(ASM)

ALTERNATIVE SITE NUMBER: None
WESTLAND FIELD SITE NUMBER: 283
CULTURAL AFFILIATION: Archaic
AGE: Archaic
TYPE/FUNCTION: Artifact scatter/resource procurement
SITE SIZE: 198.6 by 139.8 m (27,764.3 m²)
ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Not eligible

SITE DESCRIPTION: AZ J:13:62(ASM) is a moderate-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located in and around two small playas that are largely devoid of vegetation (Figure 30; Photo 65). The site is part of the Tolchaco Gravels complex of expedient lithic-procurement sites within the Little Colorado River Valley (Bartlett 1943; Keller and Wilson 1976).

TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site is along a low, narrow ridge of Moenkopi sandstone, with the greatest concentrations in and around two small, shallow playas. Very little sediment is present within the site (0 to 5 cm) based on the surface expression of bedrock outcrops and pinflag probes.
Figure 30. Site AZ J:13:62(ASM)
Vegetation includes grasses, saltbush, and skakeweed. Ground visibility within the site boundaries is 76 to 99 percent open. The site is at an elevation of 4,920 feet (1,500 m) AMSL.

**FEATURES:** None

**MATERIAL CULTURE:** All the artifacts within the project right-of-way were analyzed, consisting of two cores, and 48 tested cobbles or debitage; one dart point observed during the definition of the site boundaries was also point located. AZ J:13:62(ASM) contains an estimated 500 tested cobbles and debitage, and 20 tools, cores, and hammerstones. The analyzed artifacts include 9 tested cobbles and 33 debitage (12 primary, 11 secondary, 9 tertiary, and 1 biface-thinning flakes) of LCR chert, 2 tested cobbles and 3 secondary flakes of quartzite, and 1 chalcedony primary flake. The two cores are LCR chert amorphous cores (one exhausted measuring 5.9 by 5.3 by 2.2 cm [PL-2] and one measuring 6.2 by 4.2 by 3.7 cm [PL-3]). The dart point [PL-1] is a stemmed point of LCR chert measuring 34 mm by 15 mm by 6 mm (Photo 66).

**SITE CONDITION:** A road has been bladed through the site and a range fence has been constructed along its eastern edge. Some artifacts have sheetwashed off the ridge. There is no other apparent disturbance.

**INTERPRETATION:** The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed.

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION:** WestLand recommends that the ARHP and NRHP eligibility of AZ J:13:62(ASM) is uncertain. The site retains integrity of location, setting, and materials, but lacks evidence of integrity of association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only a small percentage of the artifact assemblage. Under the context of Lithic Resource Procurement in the Tolchaco Gravels, additional information regarding the cultural and temporal affiliation and lithic-reduction strategies used at this site may be available through further analysis of the remaining assemblage.
AZ J:13:63(ASM)

**WESTLAND FIELD SITE NUMBER:** 299

**CULTURAL AFFILIATION:** Euroamerican

**AGE:** Historic (1881–1967)

**TYPE/FUNCTION:** Artifact scatter/recreation and waste disposal

**DIMENSIONS:** 156.0 by 88.9 m (13,868.4 m²)

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION:** Eligible (D)

**SITE DESCRIPTION:** AZ J:13:63(ASM) is an extensive scatter of broken bottles, ceramics, and some metal items along an abandoned segment of historic Route 66 (*Figure 31; Photo 67*). The site is a short distance east of what had been an at-grade crossing of the AT&SF Railroad (now BNSF) that has since been replaced by the I-40 Sunshine overpass (now BNSF overpass) (Evans 1994). The site appears to have developed as an informal rest area at which travelers on Route 66 stopped to eat, drink, and relieve themselves; this location was probably selected by travelers forced to stop and wait for a train at the crossing. Some artifacts are older than the use of Route 66 (1937–1966) and probably date to the construction of the AT&SF Railroad (1881–1883) and subsequent use of the area. The site also contains recent trash associated with I-40 (1966–present), much of which has been transported by aeolian processes to its present location.

Photo 67. AZ J:13:63(ASM)
Figure 31. Site AZ J:13:63(ASM)
TOPOGRAPHIC AND ENVIRONMENTAL SETTING: The site is located in a level area on either side of Route 66 (AZ 1:15:156[ASM]), east of the former at-grade crossing of the AT&SF Railroad; low Moenkopi sandstone outcrops form the western and northern site boundaries. The vegetation is very sparse and consists of saltbush, snakeweed, little sagebrush, Russian thistle, grasses, and ephedra. A solitary juniper tree is visible near the eastern site boundary. Ground visibility is between 76 and 99 percent. The site is at 5,116 feet amsl elevation.

FEATURES: None. Two areas along the Moenkopi sandstone outcrop north of Route 66 exhibit concentrations of broken bottles within rock alcoves and associated battered river cobbles, suggesting that the cobbles were thrown to break the bottles. These were not mapped or recorded as features.

MATERIAL CULTURE: The site contains an estimated 500 or more ceramics, 150 metal artifacts, and more than 5,000 pieces of glass; at least 10 LCR chert artifacts area also present. WestLand archaeologists analyzed bottle bases with diagnostic makers’ marks, and a representative sample of metal artifacts. The ceramics were not analyzed, but include at least 5 bricks, 1 fire brick, and sherds of porcelain, earthenware, ironstone, and milk glass table settings. At least 32 glass vessels are included in the analysis, most of which are bottles (n=24) or liquor flasks (n=7); one brown pharmaceutical phial was also observed. Most of the vessels were made from clear (n=21) or brown (n=7) glass, with the remains of 2 pale blue/aqua bottles and 2 sun-colored amethyst (SCA) bottles the only other glass colors observed in the assemblage of diagnostic bottles (several bright green bottles bases are present, but lack manufacturing date codes or makers’ marks). Bottles with identifiable manufacturing dates indicate use of the site primarily during the 1940s, with 1940 (n=1), 1941 (n=1), 1942 (n=1), 1945 (n=1), 1947 (n=2), 1948 (n=4), 1949 (n=1), and 1951 (n=1) dates observed. A bottle with the Brockway Glass Company maker’s mark and date of 1967 is a later addition to the site (Toulouse 2001), associated with the construction of I-40. Also present are many mid-century glass makers’ marks, including Latchford (1957–present), Latchford-Marble (1939–1957), Hazel-Atlas (1920–1964), Owens-Illinois (1929–1954), Obear-Nester (1915–present), Knox (1924–present), Maywood (1957–1961), and Glass Containers (1945–present) companies (Toulouse 2001). Most of the bottles and flasks are liquor, beer, or wine containers, although one SCA patent medicine, 2 ACL pop bottles (1 “Coke” bottles in Los Angeles, Claif) and 1 clear molded pop bottle were observed.

Metal objects include 6 stamped sardine cans (embossed “NORVEGE/NORWAY” [1930–present]), 5 auto parts (3 exhaust pipe sections and 2 fittings), 2 ham/fish cans (“PACKED IN VACUUM”), 2 shotshell bases, 1 208 by 206 evaporated milk can (Simonis 1997; Type 13 [1917–1930]), 1 lard pail, 1 rectangular tapered meat can (“INDUSTRIA ARGENTINA / ESTAB 1A / INSP”), 1 hole-in-cap can with crimped body seams and the bottom cut out, and 1 upright pocket tobacco tin. The ammunition includes a high brass base with headstamp “REM-UMC / № 12 / ARROW,” and a low brass base with headstamp “REM-UMC / № 12 / NITRO CLUB” (1911–1934; Goodman and Gilpin 2005).

CONDITION: The site is in generally good condition as it was abandoned when I-40 was constructed in the mid- to late 1960s and the at-grade railroad crossing was closed and later replaced with an elevated grade, blocking access to this section of Route 66 from the west.

INTERPRETATION: AZ J:13:63(ASM) is a scatter of historical trash representing several periods of use from 1881 to 1967, with most of the artifacts deposited between 1940 and 1951 when the site area was
apparently used as an informal roadside rest area. This rest area appears to have developed due to the at-grade railroad crossing of Route 66 to the west; the level, open area of the site and the shelter provided by the Moenkopi sandstone outcrops along the western (windward) side undoubtedly contributed to the appeal of this location. The presence of ceramic serving vessels, including teapots, teacups, a tea canister, mugs, and saucers—not typical of the roadside trash observed along sections of Route 66 elsewhere in the survey area—suggests that picnicking was the primary activity undertaken.

**ARIZONA AND NATIONAL REGISTERS OF HISTORIC PLACES ELIGIBILITY EVALUATION:** WestLand recommends that AZ J:13:63(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined was neither comprehensive nor exhaustive. The site is a rare, intact example of what must have been a common feature along Route 66 in Arizona, informal roadside rest areas; a smaller one was documented by this project as Feature 1 of AZ J:13:60[ASM]). Further analysis of the artifact assemblage (especially the ceramic vessels) may provide additional information about this use of the area, as well as the earlier historical use(s) of the location.
SYNTHESIS OF FINDINGS

WestLand identified 38 sites and 161 isolated occurrences. Twenty sites are prehistoric, 17 are Historic period, and 1 is mixed/multicomponent; however, all the prehistoric sites contain at least one historical artifact and all the historical sites include at least one prehistoric artifact, a reflection of the level of intensity of past uses of Red Gap Ranch during all time periods. The prehistoric occupations consist of 16 lithic-procurement artifact scatters, 4 temporary habitation/limited-activity sites associated with Moenkopi sandstone outcrops, and 1 artifact scatter. The prehistoric sites include one with a late Paleoindian component, 6 Archaic components (2 Middle–Late or Late Archaic and 4 for which a specific phase could not be determined), 2 possible Basketmaker components, and 6 Ceramic period components (1 Pueblo I, 2 Pueblo II, 1 Pueblo II-III, 1 Pueblo III-IV, and 1 component that could not be assigned to a specific phase). Eight prehistoric sites lacked diagnostic artifacts and were identified as prehistoric or aceramic in age; a total of 23 prehistoric components were recognized. The six Ceramic period sites are all attributed to an occupation by Anasazi of the Kayenta and/or Little Colorado traditions, based on the ceramic wares observed. Late PIII-IV Winslow Orange Ware sherds observed on one site are the only clear evidence of a possible Protohistoric Native American presence in the survey area. The 16 lithic-procurement sites are part of the Tolchaco Gravels complex in the Little Colorado River Valley and consist of one site with primary cobble deposits and 15 with secondary or lag deposits. As is typical of these sites (Keller and Wilson 1976), the diagnostic artifacts indicate use of the extremely high-quality Little Colorado River cherts and quartzite from Late Paleoindian through Ceramic times.

The historical occupation of the survey area consists of 8 roads, 2 powerlines, 1 telephone line, 1 ranch complex, 3 trash dumps, 2 roadside rest areas, and 1 roadside commercial property, a total of 18 components. By time period and association, however, 3 sites are part of the 1937–1966 alignment of Route 66 (1 road segment and 2 informal rest areas), 11 sites are part of Red Gap Ranch (the ranch headquarters complex, 7 ranch access roads, 2 trash dumps, and 1 power distribution line), and 1 site is associated with both (the remains of a roadside commercial property along Route 66 that was operated by the Red Gap Ranch owners or lessees). The other historical components consist of a 1930s 69-kV powerline between Flagstaff and Winslow, a pre-1921 telephone line, and a 1920s–1930s railroad trash dump. Historical trash from Route 66 is present on all the sites near the old highway alignment, but at least two of these sites also contain older (<1937) historical trash associated with either the AT&SF Railroad (1881–present) or older roads such as the National Old Trails Highway (1913–1926) that have been obliterated by Route 66, I-40, and/or the interstate frontage road.
NRHP ELIGIBILITY EVALUATIONS AND RECOMMENDATIONS

The significance of cultural resources is evaluated according to the implementing regulations of Section 106 of the National Historic Preservation Act. Federal regulation 36 CFR 60.4 defines the criteria for determining whether or not cultural resources have significance in American history.

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or

(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important in prehistory and history.

The criteria for determining the significance of cultural resources in Arizona state history are identical to the national criteria with the exception that it is the “quality of significance in Arizona history” (ASM n.d.:6). These criteria are modified by several additional considerations (36 CFR 800.10[b]), the most important of which is the requirement that significant resources must be at least 50 years old unless they are of exceptional importance and that the property retains integrity. The application of the seven aspects of integrity—location, design, setting, materials, workmanship, feeling, and association—requires that elements appropriate to the criteria of association be assessed by evaluating which essential physical features must be present to represent this significance, determine whether these features are visible enough to convey their significance, determine if the site needs to be compared with similar properties, and determine which of the aspects of integrity are vital to the property and if they are present (NPS 1997) (Table 13). Sites are evaluated in numeric order, grouped as to whether they are previously recorded or newly documented.

WestLand documented 38 sites during the inventory of areas of impact within Red Gap Ranch. In terms of eligibility for inclusion in the ARHP and the NRHP, 1 site is listed in the NRHP, 11 sites are recommended as eligible, 15 sites are recommended as not eligible, and 11 sites are of uncertain eligibility, requiring archaeological test excavations to evaluate their significance and/or integrity. All the sites recommended as eligible are significant under Criterion (D) for having yielded or having the potential to yield information important in prehistory or history. Additionally, one of those sites is also considered significant in American history under Criterion (A). Five of the sites of uncertain eligibility retain integrity of location, setting, and materials, but lack visible culturally/temporally diagnostic artifacts that would associate the site with the research questions pertaining to specific groups or time periods in prehistory. These sites contain what appear to be intact surface artifact assemblages and should be treated as eligible sites in terms of potential project impacts.
### Table 13. Eligibility recommendations of project sites to the Arizona and National Registers of Historic Places

<table>
<thead>
<tr>
<th>Site Number</th>
<th>ASM(^1)</th>
<th>Field Site Numbers</th>
<th>50 Years Old</th>
<th>Criterion</th>
<th>Integrity</th>
<th>Recommendation for Inclusion to the NRHP</th>
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**Notes:**
- "X" indicates Applicable Criterion or Integrity; "P" = Partial integrity
- ASM site numbers are in the format "AZ A:1:1(ASM)"
The sites identified by WestLand in Red Gap Ranch can be understood in terms of specific historic contexts. A historic context is the analytic framework within which a cultural property’s importance can be understood. The dimensions of time, place, and research theme converge to create the historic contexts relevant for evaluating the significance of cultural properties in a specific area. The National Park Service (NPS) (Hardesty and Little 2000:18; National Park Service 1996) has provided a thematic framework for history and prehistory to reflect current scholarship and to represent the full diversity of America’s past. The themes and topics of the current NPS thematic framework are:

I. Peopling Places: The statistical study of human population, family, and the life cycle; dynamics such as growth and decline; aggregation and dispersion; migration from outside and within; community; encounters, conflict, and colonization; abandonment; ethnicity, ethnic homelands and cultural identity; and quality of life including health, nutrition, and disease.

II. Creating Social Institutions and Movements: Study of the manners by which people develop groups or organizations within a society and how these are organized including identification of the groups, physical manifestations of the social structures within an individual site and across the landscape, recreational activities, social ranking at the level of the individual and groups, alliance and interaction, effect of cosmology (religion) on the organizational structures, mortuary practice, and symbolic communication.

III. Expressing Cultural Values: Study of educational intellectual currents; visual and performing arts; literature, mass media, architecture, landscape architecture, and urban design; and popular and traditional cultures.

IV. Shaping the Political Landscape: Study of the development and impact of social institutions such as governmental institutions; political ideas, cultures, and theories; military institutions and activities as well as parties, protests, and movements.

V. Developing the American Economy: Study of how society transfers services and materials between individuals and communities, how resources and goods are extracted, produced, distributed, and consumed among the society; transportation and communication including trends related to travel and the transference of information within a society and between societies such as the information that is being conveyed, the mechanisms for transferring the information, and the nature of the communication; workers and work culture; labor organizations and protests; exchange and trade; governmental policies and practices; and economic theory.

VI. Expanding Science and Technology: Study of experimentation and invention; technological applications; scientific thought and theory, and its effects on lifestyle and health.

VII. Transforming the Environment: Generally defined as the study of human techniques and processes of manipulating the natural environment and its resources such as water and soil control, resource management, modifications of the natural landscape,
resource identification and procurement, food preservation and storage, architectural design and construction, and production of tools and implements. Also includes adverse consequences and stresses on the environment and protecting and preserving the environment.

**VIII. Changing Role of the United States in the World Community:** Study of international relations; commerce; expansionism and imperialism; and immigration and emigration policies.

The specific historic contexts necessary for evaluating the quality of significance of the cultural properties discovered in the survey area were created by considering the thematic framework presented above with regard to the prehistory and history of the survey area as presented in the *Culture History for North-Central Arizona* section of this report. This convergence of local archaeological history and the NPS thematic framework creates the necessary historic contexts for evaluating the significance of individual sites: Prehistoric Settlement and Subsistence in the Little Colorado River Valley; Lithic Resource Procurement in the Tolchaco Gravels; Route 66 in Arizona; and Ranching in Arizona (Statehood to Present).

The eligibility of the Tolchaco Gravels requires additional consideration due to the long history of study at these sites, summarized by Spurr (2005:78–80). Many of the Tolchaco sites are located on lands of the Navajo Nation, with archaeologists of the Navajo Nation Archaeology Department routinely encountering this resource during inventories in the Little Colorado River Valley, including the likelihood of the same large site being evaluated for eligibility by multiple investigators working on different projects. As Spurr (2005:79) notes:

> From a research perspective, Tolchaco gravel deposits are most profitably treated as resource areas that were exploited in the same manner as water resources and arable land. In the interest of efficient management and cultural resource compliance, the areal extent of the gravel deposit should be recorded along with the relative density of flakes or split cobbles per square meter. A density of at least 1 artifact per 10 sq m within a gravel deposit may be used as a criterion for site definition in these areas, but the absolute presence of culturally manipulated gravels should not constitute a site; such a procedure would result in the entire Little Colorado River Valley being divided into innumerable sites.

Spurr (2005:79–80) identified three research questions under which sites of this type are considered significant under Criterion (D) of the NRHP: dating, the presence of features, and the role of the sites in a larger cultural system. Very few Tolchaco sites have been dated by any means, including diagnostic projectile points and tools, with very few having yielded any sort of absolute (or even relative) dates. Sites with a potential to yield absolute dates or diagnostic artifacts could be considered significant. Many Tolchaco sites, including many recorded by this project, are simply scatters of unmodified cobbles, tested cobbles, and flakes, lacking any obvious activity areas; these are considered to be non-significant sites. However, some sites do contain chipping stations, caches or concentrations of tested cobbles, and other features that could provide information important in prehistory. Lastly, different approaches to exploiting
these resources may have been practiced through time or by peoples of different cultural traditions. Tolchaco gravel sites may, for example, contain information about the procurement strategies, seasonal movements, and raw material preferences of peoples from big game hunting, hunting-and-gathering, and agricultural societies.

The following discussion presents WestLand’s arguments as to whether the archaeological resources recorded in the survey area possess the necessary qualities of significance and integrity to be considered for inclusion in the ARHP and the NRHP. WestLand’s management recommendations are summarized in Table 14 [follows site evaluations/recommendations]. All isolated artifacts and features are considered not eligible for inclusion in the ARHP or the NRHP, and for this reason are not included in the management summary table.

**ARCHAEOLOGICAL SITE EVALUATIONS AND RECOMMENDATIONS**

**Previously Recorded Sites**

**AZ I:15:156(ASM)** designates Route 66 in Arizona, including the 1937–1966 segment in the survey area. Route 66 is listed in the NRHP (listed 1989-04-05). This segment has not previously been documented or evaluated for its contribution to the listing. The road prism is intact with the exception of the borrow pit that divides Sections A and B, and a short section on Section B that is undercut by runoff. Intact pavement ranges from 40 to 95 percent intact. Part of Segment B remains in use for access to Red Gap Ranch; a locked gate now blocks use of the road west of this point. WestLand Recommends that Section B of the documented segment is a contributing element under the context of Route 66 in Arizona, which retains integrity of location, setting, feeling, materials, design, workmanship, and association. Section A is visibly truncated before the horizon in both directions by more recent development, and is regarded as non-contributing (Cleeland 1988).

**AZ J:13:15(ASM)** is a previously recorded low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on gently sloping plains. Late Paleoindian and Basketmaker artifacts have been documented previously at this site, demonstrating that Tolchaco Gravel sites were exploited for millennia. AZ J:13:15(ASM) was previously recorded in 1989, with no eligibility recommendation reported by AZSITE; the site was revisited in 2009, and recommended as eligible to the ARHP and the NRHP under Criterion (D). WestLand concurs with the previous recommendation that AZ J:13:15(ASM) is eligible for inclusion in the ARHP and NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association, and contains considerable data regarding the past use of primary Tolchaco gravel sites that has yet to be collected and analyzed. The shallow sediments across the site suggest little potential for intact buried features and/or deposits are present that could address questions important in prehistory. However, the in-field analysis of the artifacts examined only a tiny percentage of the site area, and not all the area potentially impacted by the proposed project. Additional information regarding the association and lithic-reduction strategies used at this site may be available through analysis of more of the assemblage, including information on the cultural and temporal affiliations of the groups who utilized this resource under the historic context of Lithic Resource Procurement in the Tolchaco Gravels.
AZ J:13:16(ASM) is a previously recorded moderate-density scatter of Little Colorado River chert cobbles and pebbles, cores, and debitage, located along a low, undulating mesa of Moenkopi sandstone. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed. WestLand identified all the artifacts within the present survey area, resulting in a significant revision to the eastern site boundary, which now appears to be located hundreds of meters to the west. The sparse scatter of artifacts observed within the former site boundaries east and south of this line do not meet ASM site criteria, and were documented as isolated occurrences, either singly or as small scatters. It is possible that this portion of the site represents a break between loci; WestLand did not verify the site boundaries beyond the present survey area, however. The status of other portions of the site cannot be evaluated within the scope of the present project. The site exhibits minor sheetwash erosion, resulting in surface displacement of artifacts, and has been impacted by the construction of a historical power transmission line (AZ J:13:30[ASM]) and access road through the site. The site was previously recorded in 1989, with no eligibility recommendation reported by AZSITE; the site was revisited in 2009, but the ARHP and NRHP eligibility of the site was recommended as being undetermined due to lack of cultural and temporal affiliation. WestLand concurs with the recommendation that the ARHP and NRHP eligibility of AZ J:13:16(ASM) is uncertain. The site retains integrity of location, setting, and materials, but lacks evidence of integrity of association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only a small percentage of the artifact assemblage. Additional information regarding the cultural and temporal affiliation and lithic-reduction strategies used at this site may be available through further analysis of the remaining assemblage under the historic context of Lithic Resource Procurement in the Tolchaco Gravels.

AZ J:13:17(ASM) is a previously recorded high-density scatter of Little Colorado River chert cobbles and pebbles, cores, debitage, and tools located on a high, level ridge that defines the eastern edge of the Red Gap basin. The site is a typical primary Tolchaco gravel lithic-procurement site, directly associated with Tolchaco gravel beds; other Tolchaco sites in the survey area appear to be minor or secondary (redeposited) Tolchaco gravels. Only cobble-sized rocks were utilized for lithic raw material; the pebble-sized stones were not used. The site boundaries observed by WestLand represent a substantial southward extension of the previously mapped boundaries as depicted by AZSITE, encompassing the previous site plots of AZ J:13:2, 3, 24, and 25. In attempting to define the boundaries of this site, WestLand discovered that it extended without interruption northeast and westward to the previous boundaries of AZ J:13:17(ASM), but did not attempt to verify the previous site boundaries, other than to note that artifacts represented a continuous distribution from the I-40 frontage road to the AZSITE-plotted previous site boundaries. Most of the site is located outside the present survey area. The site exhibits moderate disturbance from a number of sources, including I-40, the I-40 frontage road, SR 99, a historical telephone line (WRI-10), a bladed road that may be associated with I-40 construction (possibly to a borrow pit), and several private houses (outside the present survey area). Artifacts are subject to minor alluvial and aeolian displacement, and the assemblage is mixed with historical/recent trash derived from Route 66 and I-40. The portions of the site previously recorded in 1966 (AZ J:13:2 and 3[ASM]) had no eligibility recommendation reported by AZSITE, and the portions documented as AZ J:13:24 and 25(ASM) were determined not eligible in 2002. No eligibility assessment was recommended when AZ J:13:17(ASM) was initially recorded in 1989; the site was revisited in 2009, at which time the site was
recommended as being of undetermined eligibility due to lack of integrity of association. WestLand concurs with the recommendation that the ARHP and NRHP eligibility of AZ J:13:17(ASM) is uncertain. The site retains integrity of location, setting, and materials, but lacks evidence of integrity of association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only a small percentage of the artifact assemblage, and the site contains considerable data regarding the past use of primary Tolchaco gravel sites that has yet to be collected and analyzed; documentation of the site to date has been cursory and focused primarily on elucidating the site boundaries or concentrations of greater artifact density, with little systematic analysis of artifacts. Further investigation may establish the cultural and temporal affiliation of the site, which has yet to be identified, under the historic context of Lithic Resource Procurement in the Tolchaco Gravels.

AZ J:13:20(ASM) is a previously recorded low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located in a flat playa basin that is largely devoid of vegetation. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, and includes fragments of Archaic-style dart points made from LCR chert. The site boundaries observed by WestLand conform closely with those depicted by AZSITE. AZ J:13:20(ASM) was first recorded by Logan Simpson Design during a maintenance inventory along I-40 (Lonardo et al. 2002) as a low density lithic scatter. Perhaps due to aeolian erosion, WestLand observed additional artifacts in 2013. The site exhibits little other apparent disturbance, although the I-40 frontage road bisects the site, and I-40 truncates the southern edge of the site. Artifacts are subject to alluvial and aeolian displacement, and the assemblage is mixed with historical/recent trash derived from Route 66 and I-40. The site was previously determined not eligible for inclusion in the ARHP or the NRHP under any criterion (2003); WestLand concurs with this assessment. The site retains integrity of location, setting, materials, and association, but is unlikely to contain intact subsurface features and/or deposits, and is not considered a significant resource. The site is unlikely to contribute information beyond what was collected by in-field analysis.

AZ J:13:30(ASM) is a historical 69-kV power transmission line between Flagstaff and Winslow, built in 1930. The line consists of three-phase single wires and a shield wire on wooden poles, all of which have been replaced within the past two decades. Whiting and others (2011) recommended the Coconino-to-Winslow Line as eligible to the NRHP under Criterion (A) for its part in the development of the electric grid in Arizona. While it was acknowledged that ongoing maintenance of the line had compromised the integrity of materials and workmanship, Whiting et al. (2011:37) “argued that the NE-8 line retains sufficient integrity to convey its historic appearance and function.” WestLand recommends AZ J:13:30(ASM) as not eligible for inclusion in the ARHP or the NRHP under any criterion due to loss of integrity from replacement of the original poles with new poles of a different design and appearance. The site retains integrity of location, setting, feeling, and association, but can no longer convey the feeling, design, or materials of a 1930s powerline.

Newly Identified Sites

AZ I:16:61(ASM) is part of a network of local roads on the Red Gap Ranch. This road was formerly the primary route from Route 66 and I-40 to the western end of the ranch. The road is undisturbed and
sees occasional use, but is not actively maintained. AZ J:16:61(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46[ASM]) is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.

AZ J:13:33(ASM) is a scatter of flaked stone artifacts on and around a low Moenkopi sandstone outcrop. The site assemblage contains a relatively high percentage of interior flakes, especially biface-thinning flakes, which suggests that the site is the locus of biface and/or tool manufacturing from prepared cores or bifaces of LCR chert. Such sites are typically associated with hunting, as weapons are prepared or repaired while waiting on game. Ranch road AZ J:13:39(ASM) has been bladed through the site, bisecting it, and the artifacts are subject to minor alluvial and aeolian movement. The site has been visited, as evidenced by historical ammunition, but there is no obvious vandalism or looting. There are no other apparent disturbances. AZ J:13:33(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, and materials, but lacks association and has no potential for any intact subsurface features and/or deposits. The entire artifact assemblage was analyzed in field. No additional information important in prehistory appears likely to be forthcoming from this site, which is not regarded as a significant resource.

AZ J:13:34(ASM) is a moderate-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools on a level plain of open grasslands. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed. A road has been bladed through the site, and a range fence has been constructed along the eastern edge. The road exposes bedrock 0 to 5 cm below the surface. No other apparent disturbance. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed. WestLand recommends that AZ J:13:34(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and possibly association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only approximately 44 percent of the observed artifact assemblage. Under the context of Lithic Resource Procurement in the Tolchaco Gravels, additional information regarding the cultural and temporal affiliation and lithic-reduction strategies used at this site may be available through further analysis of the remaining 56 of the assemblage.

AZ J:13:35(ASM) is part of a network of local roads on the Red Gap Ranch, extending from the northern edge of the ranch compound east-northeast along Cow Canyon. The road is in use and maintained. The only impacts observed are minor gullying. AZ J:13:35(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46[ASM]) is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common

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and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.

**AZ J:13:36(ASM)** is an extensive low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on a level, open bench between a low sandstone ridge to the east and south and a drainage to the west. The presence of an Archaic-style dart point indicates that the site was utilized during this period. The site is bisected by a bladed dirt road (AZ J:13:40[ASM]), which exposes bedrock 0 to 5 cm below the surface. Artifacts may have been horizontally displaced by aeolian and alluvial erosion, but is otherwise undisturbed. WestLand recommends that AZ J:13:36(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only 35 percent of the observed artifact assemblage. Additional information regarding Lithic Resource Procurement in the Tolchaco Gravels, including the association and lithic-reduction strategies used at this site, may be available through analysis of the remaining 65 percent of the assemblage.

**AZ J:13:37(ASM)** is a historic power distribution line within Red Gap Ranch. The line consists of three-phase single wires and a shield wire on wooden poles, some of which are relatively weathered and some are much less weathered, suggesting that over the years some poles have been replaced. Two poles exhibited date nails for 1935 and 1972 (both). The line provides power to the various buildings of Red Gap Ranch, including two houses that are located north of the main ranch compound. The houses are accessible by an abandoned bladed road that does not appear on the historical 1968 topographic quadrangles, nor is it depicted on the 1921 GLO plats. Likewise, the houses are also not depicted, suggesting that they are of more recent construction (after 1968). AZ J:13:37(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46[ASM]) is eligible to the ARHP and the NRHP, the associated infrastructure does not provide any information important in history, and are common and redundant resources that do not convey the specific period and context under which the ranch itself is considered eligible.

**AZ J:13:38(ASM)** extends from the access road of the 1930s Arizona Public Service (APS) Company Coconino-to-Winslow 69-kV transmission line in a northwesterly direction. WestLand documented two in-use, maintained segments and one abandoned, washed out segment within the survey area. This road is part of a network of local roads on the Red Gap Ranch, and was formerly the primary route through the northwestern part of the ranch, but has since been replaced by a road (not depicted on the 1968 topographic quadrangles) that extends more directly from the ranch headquarters to the northwest. The alignment of this road with the 1930s powerline (AZ J:13:30[ASM]) suggests that it may have been present before Red Gap Ranch was developed. The road is in use and maintained, except for the middle segment with has deep (>50 cm) gullies along the roadbed and deep aggradation of sediments in more level locations, and has clearly not be actively used as a road for some years. AZ J:13:38(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant
resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46(ASM)) is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.

AZ J:13:39(ASM) is part of a network of local roads on the Red Gap Ranch, extending north and northwest from the Red Gap Ranch headquarters before turning west to join with AZ J:13:38(ASM). The road is bladed and in use, but has not recently been graded. WestLand documented the in-use roadbed and one abandoned, washed out segment within the survey area. AZ J:13:39(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:38(ASM)) is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.

AZ J:13:40(ASM) is part of a network of local roads on the Red Gap Ranch, extending from the northern edge of the ranch compound to the northeast. WestLand documented an in-use, maintained segment and one segment that is not currently accessible from the ranch due to the road having been washed out where it crossed the spillway of a stock tank dam. Much of the roadbed exposes Moenkopi Formation sandstone. The road is in use and maintained, but experienced gullying and aggradation during the summer 2013 monsoon rains, which have not been addressed as of the site recording. It is unknown whether the stock tank dam is contemporaneous with the original development of the road, or is a more recent alteration. AZ J:13:40(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46(ASM)) is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.

AZ J:13:41(ASM) is a historical telephone line that follows approximately (but not exactly) the route of a telephone line depicted on 1921 GLO township plats. Some of the poles are extremely weathered, with splitting, surface checking, and raised grain, and may be original to the initial construction of the line; others have been replaced, as indicated by their less weathered appearance and date nails from 1986 and 1997. Some replacement poles, including one with a 1997 date nail are leaning as much as 10 to 15 degrees from vertical. The line is in use and maintained by the successor corporation to Qwest. The ARHP and NRHP eligibility of AZ J:13:41(ASM) is uncertain. The site retains integrity of setting, feeling, and association, but may have lost integrity of design and materials due to on-going replacement of poles. Archival research is needed to assess the significance of the line and its integrity of location.

AZ J:13:42(ASM) is a moderate-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on a low rise north of the I-40 frontage road. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes.
observed. The presence of three hammerstones is unusual; other Tolchaco sites in the survey area are often without any observed hammers. The site exhibits deep heavy truck tire ruts from recent utility work, which cross the site south to north, and the artifacts are subject to some alluvial and aeolian erosion. Relatively little windblown trash from Route 66 and I-40 is present across the site, compared with other sites in the vicinity. No other disturbances are apparent. The ARHP and NRHP eligibility of AZ J:13:42(ASM) is uncertain. The site retains integrity of location, setting, and materials, but integrity of association cannot be evaluated based on the observations made during recording. In-field archaeological analysis of a sample of the site is required to evaluate the cultural and temporal affiliation of the site, perhaps through the identification of artifacts or samples that would place the site in time. Furthermore, the site may contain intact buried deposits and/or features that can address research questions under the context of Lithic Resource Procurement in the Tolchaco Gravels.

AZ J:13:43(ASM) is one of two trash disposal locations for Red Gap Ranch, containing the remains of multiple individual trash dumps and one multiple-episode dump, deposited over many decades. Seven individual features were identified and documented. All contain diagnostic makers’ marks and other attributes. Each feature was documented at a basic level, but no in-field artifact analysis was conducted during recording, with the exception of Feature 7. The site as a whole exhibits little disturbance, other than alluvial and aeolian erosion and displacement of artifacts. Individual features vary in their condition, with shot and burned artifacts in Feature 1, and broken and scattered artifacts in Features 5-7, but whole cans and bottles are present in Features 1 through 3. WestLand recommends that AZ J:13:43(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. The site contains many temporally and functionally diagnostic artifacts that can inform on the context of Ranching in Arizona (Statehood to Present). In-field analysis examined only one of seven features; additional information about life at Red Gap Ranch is available through artifact analysis and excavation of the deposits at this site.

AZ J:13:44(ASM) is the former location of a Route 66 roadside commercial property that included a gasoline/service station, as well as other structures of undetermined function. Fifteen features are present, including 6 foundations, 5 fencelines, a rock cairn, a large trash dump, a pit feature, and a pile of concrete chunks. The buildings are no longer extant. Some demolition debris is present, either in situ (Feature 7) or within the trash dump (Feature 5). The Red Gap Ranch access road has been widened by grading, cutting into Features 8 and 10. The central portion of the site exhibits bulldozer cuts and push piles, impacting Features 11 and 13, and displacing a masonry footer. The poured concrete floors in Features 1 and 3 are broken, and sections of Feature 1 appear to have been mechanically removed. 1980s cans and bottles in Feature 5 may indicate artifact collecting (bottle hunting) has taken place at the site. The artifacts are subject to alluvial and aeolian displacement. The ARHP and NRHP eligibility of AZ J:13:44(ASM) is uncertain. The site retains integrity of location, setting, materials, and association. Archaeological test excavations and archival research are required to evaluate the presence of intact subsurface features and/or deposits that can address questions important in history, and to evaluate the significance of the site under the context of Route 66 in Arizona.

AZ J:13:45(ASM) is the primary access road from Route 66 to Red Gap Ranch, and is part of a network of roads within Red Gap Ranch that was apparently developed by the former owners of the ranch.
to provide access to and from the ranch houses. The road is in use and maintained. The site is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46[ASM]) is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.

AZ J:13:46(ASM) is the Red Gap Ranch complex, which includes at least two houses (Features 1 and 9), a garage (Feature 2), corrals and storage buildings (Feature 8), other outbuildings (Features 5 and 6), a water storage tank (Feature 7), equipment storage yard (Feature 3), and cistern (Feature 10). The ranch complex is at the center of a web of roads (AZ J:13:35[ASM], AZ J:13:38[ASM], AZ J:13:39[ASM], AZ J:13:40[ASM], AZ J:13:45[ASM], and AZ J:13:54[ASM]) that radiate outward to the far corners of the ranch property, and link the complex with associated trash dumps (AZ J:13:43[ASM] and AZ J:13:51[ASM]), Route 66 (AZ I:15:156[ASM], and a roadside commercial property (AZ J:13:44[ASM]) that was operated by the ranch owners. AZ J:13:46(ASM) also includes a low-density scatter of LCR chert flakes and tools. Ten features are present, including one standing ruin (Feature 4) that may represent the earliest occupation at Red Gap Ranch (circa 1900); primarily the ranch operated from 1940 until around 1990. The buildings are intact (with the exception of Features 4 and 9, ruins), but are exhibiting minor deterioration from weathering and vandalism, such as broken windows, missing doors, and loose roofing panels (Features 1 and 8). Features 2, 5, and 6 remain in use by the City of Flagstaff for storage of wellfield equipment or water production (Features 6 and 7), and Feature 3 may have been constructed or reused after the property was acquired by the City of Flagstaff. WestLand recommends that Red Gap Ranch is eligible for inclusion in the ARHP and the NRHP under Criterion (D). AZ J:13:46(ASM) retains integrity of location, design, setting, materials, workmanship, feeling, and association. The site contains many temporally and functionally diagnostic artifacts that can inform on Ranching in Arizona (Statehood to Present). In-field analysis examined only one of seven features; additional information about life at Red Gap Ranch is available through artifact analysis and excavation of the deposits at this site.

AZ J:13:47(ASM) is a rock shelter with an associated midden (Feature 1), a petroglyph panel (Feature 2), and three concentrations of fire-cracked rock within a dense artifact scatter (Features 3-5). Features 1 and possibly 2 appear to represent Ceramic period Anasazi features, with Feature 1 a seasonal or short term habitation and Feature 2 a rock art panel. Locus B contains no ceramics and several dart points, suggesting that it is an Archaic period resource processing site. The presence of a corner-notched arrow point within Locus B suggests that the Anasazi visited this component, possibly to acquire lithic debitage for use in making tools. The site has been visited in historical and recent times, as evidenced by historical ammunition, historical and recent bottles and beer cans, but there is no obvious vandalism or looting. A ranch road has been bladed through the site, between Features 1 and 2; however, only two pieces of lithic debitage were observed in the road, and no features were exposed. Feature 2 is badly spalled, with approximately half of the panel now fallen. WestLand recommends that AZ J:13:47(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association, and appears likely to contain intact buried deposits and/or features that can address research questions under the context of Prehistoric Settlement and Subsistence in the Little Colorado River Valley.
AZ J:13:48(ASM) is a dense scatter of flaked stone and ground stone artifacts along the base of a low Moenkopi sandstone outcrop. Three low alcoves are present in the outcrop above the artifact scatter, although none exhibit any other evidence of habitation, and two (Alcoves A and B) do not appear to contain any sediments. The site appears to represent a temporary camp at which cores were further reduced during the manufacturing and repair of bifacial tools, as indicated by flakes of non-local petrified wood. Based on the presence of several burned lithic artifacts, a hearth may be present on the site, but was apparently not located in Alcoves A or B, which lack smoke sooting on the ceilings; the ceiling of Alcove C is no longer visible. The site has been visited, as evidenced by historical ammunition, historical and recent bottles and beer cans, but there is no obvious vandalism or looting. The roof of Alcove C has fallen, although it is unclear what effect this has had on site condition. There are no other apparent disturbances. The ARHP and NRHP eligibility of AZ J:13:48(ASM) is uncertain. The site retains integrity of location, setting, feeling, and materials, but lacks integrity of association due to the absence of temporally diagnostic artifacts. Archaeological testing is required to evaluate the association of the site, perhaps through the recovery of artifacts or samples that would place the site in time. Furthermore, the site may contain intact buried deposits and/or features that could address research questions under the context of Prehistoric Settlement and Subsistence in the Little Colorado River Valley.

AZ J:13:49(ASM) is a masonry storage cist (Feature 1) within a rock alcove, with an associated artifact scatter. The presence of ground stone suggests that the site was used as a seasonal or temporary camp, possibly associated with plant harvesting and processing, and as such is part of larger landscape or logistical foraging. The site appears undisturbed. The heavy rains during the summer of 2013 may have exposed some or all of the artifacts observed, although the sediments appear very shallow. The ARHP and NRHP eligibility of AZ J:13:49(ASM) is uncertain. The site retains integrity of location, setting, and materials; however, archaeological test excavations are required to evaluate the significance and association of the site and determine whether intact buried features and/or deposits are present that could address questions important in prehistory.

AZ J:13:50(ASM) is an extensive low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools with two loci: Locus A is on gently undulating ground in a low saddle, and Locus B is to the east on top of a low mesa of Moenkopi sandstone. The presence of two Archaic-style dart point indicates that the site was utilized during this period. The site is bisected by three bladed dirt roads, which expose bedrock 0 to 5 cm below the surface. Artifacts may have been horizontally displaced by aeolian and alluvial erosion. WestLand recommends that AZ J:13:50(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only 14 percent of the observed artifact assemblage. Additional information regarding Lithic Resource Procurement in the Tolchaco Gravels, including the association and lithic-reduction strategies used at this site, may be available through analysis of the remainder of the assemblage.

AZ J:13:51(ASM) is one of two trash disposal locations for Red Gap Ranch, containing the remains of five individual features. Only Feature 1 was examined in detail during recording. The central portion of the site has been damaged when a bulldozer was used to collect, pile, and bury much of the trash within
the site. WestLand mapped an extensive area of mechanical blading, push piles, and a large mound of trash, rock, and dirt; some of the trash may have been hauled offsite. Features 1-3 and 5 appear to be undisturbed, other than breakage/weathering and some sheetwashing of artifacts downslope. The attempted cleanup of the site appears to have taken place since the ranch ceased operations. WestLand recommends that AZ J:13:51(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. The site contains many temporally and functionally diagnostic artifacts that can inform on life at a rural Arizona ranch in the Little Colorado River Valley (Ranching in Arizona [Statehood to Present]). In-field analysis examined only one of five features; additional information about life at Red Gap Ranch is available through artifact analysis and excavation of the deposits at this site.

AZ J:13:52(ASM) is an alcove in a Moenkopi sandstone outcrop (Feature 1) and an associated artifact scatter on the slope below. Feature 1 is too low and shallow to have been inhabited, even on a short-term basis, yet the artifact scatter clearly originates from the alcove opening, and the diversity and density of the assemblage suggests the site functioned as a habitation. In this respect the site is similar to others encountered by this project, suggesting a landscape-level pattern of seasonal or logistical foraging for resources. Cow Canyon Wash has captured the old alignment of ranch road AZ J:13:39(ASM), which is now downcut over 1 m in places, exposing bedrock. This has accelerated gullying on the site, although this is still a minor disturbance. The site has been visited, as evidenced by historical ammunition and cans, but there is no obvious vandalism or looting. The ARHP and NRHP eligibility of AZ J:13:52(ASM) is uncertain. The site retains integrity of location, setting, materials, and association; however, archaeological test excavations are required to evaluate the significance and association of the site and determine whether intact buried features and/or deposits are present that could address questions important in prehistory.

AZ J:13:53(ASM) is a low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on an open flat surrounding two small ephemeral playas. The presence of an Archaic-style dart point indicates that the site was utilized during this period. The site assemblage contains a relatively high percentage of interior flakes, especially biface-thinning flakes, which suggests that the site is the locus of biface and/or tool manufacturing from prepared cores or bifaces of LCR chert. Such sites are typically associated with hunting, as weapons are prepared or repaired while waiting on game. The site has been disturbed by construction of a bladed access road to an existing well north of the site, extending from the I-40 frontage road, which is located outside the site’s southern boundary. There are no other apparent disturbances. The ARHP and NRHP eligibility of AZ J:13:53(ASM) is uncertain. The site retains integrity of location, setting, materials, and association; however, archaeological test excavations are required to evaluate the significance and association of the site and determine whether intact buried features and/or deposits are present that could address questions important in prehistory. Furthermore, the in-field analysis of artifacts examined only 57 percent of the observed artifact assemblage. Additional information regarding Lithic Resource Procurement in the Tolchaco Gravels, including the association and lithic-reduction strategies used at this site, may be available through analysis of the remaining 43 of the assemblage.
AZ J:13:54(ASM) is part of a network of local roads on the Red Gap Ranch, extending westward from the ranch headquarters between a large Moenkopi Formation sandstone outcrop and an extant ranch building (Feature 5). The road climbs a low ridge and drops gradually into a basin, in which it joins the alignment of AZ J:13:38(ASM). WestLand documented the entire road, which is in use and maintained by blading. Recent changes to the routing of access roads in Red Gap Ranch have emphasized the maintenance of this road at the expense of AZ J:13:38(ASM), which has been abandoned between the APS powerline and its intersection with AZ J:13:54(ASM). The site is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, feeling, materials, and association, but is not regarded as a significant resource. Although WestLand recommends that Red Gap Ranch (AZ J:13:46[ASM]) is eligible to the ARHP and the NRHP, the associated bladed dirt roads do not provide any information important in history and are a common and redundant resource that does not convey the specific period and context under which the ranch itself is considered eligible.

AZ J:13:55(ASM) is a scatter of flaked stone, ceramic and ground stone artifacts, with three concentrations of artifacts or collectors’ piles recorded as features (Features 1-3). Feature 1 is located outside the project rights-of-way, and was not analyzed in detail; Features 2 and 3 are within the survey area and were fully analyzed. The site has been heavily impacted by activities associated with developing Red Gap Ranch as a water well field, including the drilling of two wells (MW-2W and ETW-2) within the site, and the associated bladed well pads, two rectangular pits (sumps?), and a bladed road through the site. Furthermore, the unusual concentration of artifacts recorded as Feature 1 may represent collection and redeposition of artifacts from one or more well pads during construction, most likely in the vicinity of Well ETW-2. Feature 2 may also represent a collector’s pile, but is more likely to have been accumulated in prehistoric or protohistoric times, as it is located away from the edges of disturbed areas. The site contains a sparse scatter of unmodified Tolchaco cobbles, but a relatively large number of flaked stone artifacts, suggesting that it may be the locus of core and tool production activities, using raw materials procured from the much larger gravel scatters to the south (AZ J:13:15[ASM]) and north (AZ J:13:56[ASM]). The presence of a one-hand circular (“biscuit”) mano suggests that this took place during the Archaic period. Subsequently, the site was visited during the Ceramic period as evidenced by the remains of two pots in Feature 1 (assuming that the sherds were not collected from other sites and redeposited here). Feature 2, a collection of flakes and tools, may have been created at this time. The ARHP and NRHP eligibility of AZ J:13:55(ASM) is uncertain. The site retains integrity of location and setting, and possibly association. Archaeological testing is required to evaluate the integrity of materials and confirm the cultural and temporal affiliation of the site, perhaps through the recovery of artifacts or samples that would place the site in time. Furthermore, the site may contain intact buried deposits and/or features that can address research questions under the context of Prehistoric Settlement and Subsistence in the Little Colorado River Valley. Feature 1 could cover an intact storage feature or cache from the Ceramic period.

AZ J:13:56(ASM) is a high-density scatter of Little Colorado River chert cobbles and pebbles, cores, debitage, and tools located on a low mesa and broad alluvial flat. WestLand defined the site boundaries west of the existing north-south range fence, but did not attempt to follow the site to the east, as this is outside the present survey area. No artifacts were analyzed in field during site recording. The site contains
thousands of tested cobbles, debitage and other flaked stone artifacts of LCR chert and quartzite. The site exhibits moderate disturbance from a number of sources, including three bladed roads across the site and a barbed wire range fence. Artifacts are subject to minor alluvial and aeolian displacement. No other apparent disturbances were observed. WestLand recommends that AZ J:13:56(ASM) is eligible for inclusion in the ARHP and NRHP under Criterion (D). The site retains integrity of location, setting, and materials, and contains considerable data regarding the past use of primary Tolchaco gravel sites that has yet to be collected and analyzed under the context of Lithic Resource Procurement in the Tolchaco Gravels; documentation of the site to date has been cursory and focused primarily on elucidating the site boundaries within the survey area, with no systematic analysis of artifacts. Further investigation may establish the complete site boundaries, and cultural and temporal affiliation of the site, both of which have yet to be identified.

AZ J:13:57(ASM) is a lithic scatter and railroad trash dumps, located within a larger scatter of historical and recent trash associated with Route 66 and I-40, much of which has been transported by aeolian process to the present location. WestLand archaeologists analyzed only the in situ portion of Feature 1 and Feature 2, the only feature within the project right-of-way. The site is heavily disturbed by alluvial and aeolian erosion, resulting in the displacement of nearly half of the materials deposited in Feature 1, and by introducing large quantities of more recent cans to the site from Route 66 and I-40; Feature 1 included an aluminum can lid with pull ring and 3 bimetallic beverage cans (1963–1980). The site is to the lee of a low mesa, and windblown trash obviously collects along the mesa edge and in the basin in which the site is located. AZ J:13:57(ASM) is a dump from an early Atchison, Topeka, and Santa Fe Railroad camp or operation, as indicated by both the industrial items and household serving vessels. Objects in the dumps were manufactured between circa 1905 and the early 1930s. Feature 1 may date to the early 1930s, or represent multiple dumping episodes during the 1910s–1930s; Feature 2 may date to the 1920s. AZ J:13:57(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, and association, but has lost integrity of materials due to erosion and displacement of a significant percentage of the assemblage, and admixture with more recent artifacts that lack context. The site is unlikely to contribute information beyond what was collected by in-field analysis.

AZ J:13:58(ASM) is a low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on an open flat and wash that flows northeasterly. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but few bifaces or finished tools observed. The site exhibits little apparent disturbance, although the I-40 frontage road passes near the southern site boundary, a bladed dirt road is immediately west of the site, and a historical telephone line crosses the site east-west (AZ J:13:41[ASM]). Furthermore, the wash channel appears to have been modified downstream of the site with a low dike, although this has been breached. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but few bifaces or finished tools observed. AZ J:13:58(ASM) is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, and materials, but lacks integrity of association. The site is unlikely to contribute information beyond what was collected by in-field analysis, as the majority of the assemblage was examined during recording.
AZ J:13:59(ASM) is a low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on an open flat north of the I-40 frontage road. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed. The site exhibits little apparent disturbance, although the I-40 frontage road passes along the southern site boundary, and a historical telephone line crosses the site east-west (AZ J:13:41[ASM]). The site is recommended as not eligible for inclusion in the ARHP or the NRHP under any criterion. The site retains integrity of location, setting, materials, and association, but is unlikely to contain intact subsurface features and/or deposits, and is not considered a significant resource. The site is unlikely to contribute information beyond what was collected by in-field analysis.

AZ J:13:60(ASM) is a low-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located on a low rise north of the I-40 frontage road. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes observed. At the extreme west end of the site is a historical trash scatter recorded as Feature 1. The site exhibits some disturbance, as the southern site boundary is truncated by the I-40 frontage road (and possibly by I-40). Additionally, the site is crossed by a north-south bladed dirt road in the western half of the site, and a historical telephone line crosses the site east-west (AZ J:13:41[ASM]). Some alluvial and aeolian erosion is evident, and has displaced surface artifacts. Windblown trash from Route 66 and I-40 is present across the site, especially nearest the highway right-of-way and Feature 1. The historical component is a late 1930s roadside rest area associated with Route 66, possibly with its construction in 1937. The ARHP and NRHP eligibility of AZ J:13:60(ASM) is uncertain. The site retains integrity of location, setting, and materials, but integrity of association cannot be evaluated based on the observations made during recording. In-field archaeological analysis of a sample of the site is required to evaluate the cultural and temporal affiliation of the site, perhaps through the identification of artifacts or samples that would place the site in time. Furthermore, the site may contain intact buried deposits and/or features that can address research questions under the context of Lithic Resource Procurement in the Tolchaco Gravels. The historical component is unlikely to contain any intact subsurface features or deposits, and is regarded as non-contributing to the NRHP eligibility of the site.

AZ J:13:61(ASM) is a dense scatter of ceramics and Little Colorado River chert cobbles, cores, debitage, and tools without any visible habitation features. The site assemblage includes what appears to be a typical Tolchaco gravel lithic-procurement locus, as well as the remains of a number of ceramic vessels, including decorated bowls and jars. Such an assemblage would typically be regarded as a signature of habitation, if the site also contained ground stone; however, ground stone and any physical indication of habitations are lacking. A bladed road and a range fence bisect the site; the road exposes sandstone bedrock 0 to 5 cm below the surface along the ridge. Alluvial erosion and aggradation are actively displacing artifacts, especially in the playa portion of the site. No other disturbances are apparent. The ARHP and NRHP eligibility of AZ J:13:61(ASM) is uncertain. The site retains integrity of location, setting, materials, and association. In-field analysis of the site established the cultural (Anasazi) and temporal (Pueblo II) affiliation of the site, but archaeological testing is required to determine the nature and significance of the occupation. The site may contain intact buried deposits and/or features in the playa area that can address research questions under the context of Prehistoric Settlement and Subsistence in the Little Colorado River Valley.
AZ J:13:62(ASM) is a moderate-density scatter of Little Colorado River chert cobbles, cores, debitage, and tools located in and around two small playas that are largely devoid of vegetation. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed. A road has been bladed through the site, and a range fence has been constructed along the eastern edge. Some artifacts have sheetwashed off the ridge. No other apparent disturbance. The site assemblage indicates a typical Tolchaco gravel lithic-procurement function, with many tested cobbles, cores, and cortical flakes, but no bifaces or finished tools observed. WestLand recommends that the ARHP and NRHP eligibility of AZ J:13:62(ASM) is uncertain. The site retains integrity of location, setting, and materials, but lacks evidence of integrity of association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined only a small percentage of the artifact assemblage. Under the context of Lithic Resource Procurement in the Tolchaco Gravels, additional information regarding the cultural and temporal affiliation and lithic-reduction strategies used at this site may be available through further analysis of the remaining assemblage.

AZ J:13:63(ASM) is a scatter of historical trash, representing several periods of use from 1881 to 1967, with most of the artifacts deposited 1940–1951 when the site area was apparently used as an informal roadside rest area. The rest area appears to have developed due to the at-grade railroad crossing of Route 66 to the west; the level, open area of the site, and shelter provided by the Moenkopi sandstone outcrops along the western (windward) side of the site undoubtedly contributed to the appeal of this location. The presence of ceramic serving vessels, including tea pots, tea cups, tea canister, mugs, and saucers, which are not typical of the roadside trash observed along the section of Route 66 elsewhere in the survey area, suggests that picnicking was the primary activity undertaken. The site also contains recent trash associated with I-40 (1966–present), much of which has been transported by aeolian process to the present location. The site is in generally good condition, as the site was abandoned when I-40 was constructed in the mid-late 1960s, and the at-grade railroad crossing was closed and later replaced with an elevated grade, blocking access to this section of Route 66 from the west. WestLand recommends that AZ J:13:63(ASM) is eligible for inclusion in the ARHP and the NRHP under Criterion (D). The site retains integrity of location, setting, materials, and association. Although it appears unlikely to contain intact buried deposits and/or features, the in-field analysis of the artifacts examined was neither comprehensive nor exhaustive. The site is a rare, intact example of what must have been a common feature along Route 66 in Arizona, informal roadside rest areas; a smaller one was documented by this project as Feature 1 of AZ J:13:60[ASM]). Further analysis of the artifact assemblage (especially the ceramic vessels) may provide additional information about this use of the area, as well as the earlier historical use(s) of the location.
## Table 14. Archaeological management summary

<table>
<thead>
<tr>
<th>Site No. (ASM)</th>
<th>Previously Recorded?</th>
<th>Location (TRS)</th>
<th>Land Status</th>
<th>Age/Cultural Affiliation - Type</th>
<th>NRHP Recommendation</th>
<th>SHPO Concurrence</th>
<th>Recommended Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>I:15:156</td>
<td>Y</td>
<td>20N13E27,28,34,35</td>
<td>M/S</td>
<td>1937–1966/Euroamerican – road (Route 66)</td>
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<td>20N14E31</td>
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<td>20N13E21</td>
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<td>20N13E27</td>
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<td>1900–1980s-?/Euroamerican – trash dumps (7)</td>
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<td>1940s–1950s/Euroamerican – foundations and artifact scatter</td>
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<td>n/a</td>
<td>Avoid or test</td>
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<td>N</td>
<td>20N13E21,22</td>
<td>M</td>
<td>1900s–1990s/Euroamerican – habitation (Red Gap Ranch)</td>
<td>Eligible A &amp; D</td>
<td>n/a</td>
<td>Avoid or data recovery</td>
</tr>
<tr>
<td>J:13:47</td>
<td>N</td>
<td>20N13E21</td>
<td>M</td>
<td>Archaic &amp; Ceramic/Archaic &amp; Anasazi – habitation</td>
<td>Eligible D</td>
<td>n/a</td>
<td>Avoid or data recovery</td>
</tr>
<tr>
<td>J:13:48</td>
<td>N</td>
<td>20N13E21</td>
<td>M</td>
<td>Ceramic/Indigenous – habitation and artifact scatter</td>
<td>Undetermined</td>
<td>n/a</td>
<td>Avoid or test</td>
</tr>
<tr>
<td>J:13:49</td>
<td>N</td>
<td>20N13E21,22</td>
<td>M/S</td>
<td>Ceramic/Basketmaker (?) – storage cist and artifact scatter</td>
<td>Undetermined</td>
<td>n/a</td>
<td>Avoid or test</td>
</tr>
<tr>
<td>J:13:50</td>
<td>N</td>
<td>20N13E23</td>
<td>M</td>
<td>Archaic/Archaic – artifact scatter (lithic procurement)</td>
<td>Not eligible</td>
<td>n/a</td>
<td>None</td>
</tr>
<tr>
<td>J:13:51</td>
<td>N</td>
<td>20N13E22</td>
<td>M</td>
<td>1900–1980s/Euroamerican – trash dumps (5)</td>
<td>Eligible D</td>
<td>n/a</td>
<td>Avoid or data recovery</td>
</tr>
<tr>
<td>J:13:52</td>
<td>N</td>
<td>20N13E22</td>
<td>M</td>
<td>Ceramic (Pueblo II–III)/Anasazi – habitation</td>
<td>Undetermined</td>
<td>n/a</td>
<td>Avoid or test</td>
</tr>
<tr>
<td>J:13:53</td>
<td>N</td>
<td>20N13E35</td>
<td>M</td>
<td>Archaic/Archaic – artifact scatter (lithic procurement)</td>
<td>Undetermined</td>
<td>n/a</td>
<td>Avoid or test</td>
</tr>
<tr>
<td>J:13:54</td>
<td>N</td>
<td>20N13E21,22</td>
<td>M</td>
<td>&lt;1968 (1940s–1950s)/Euroamerican – road</td>
<td>Not eligible</td>
<td>n/a</td>
<td>None</td>
</tr>
<tr>
<td>J:13:55</td>
<td>N</td>
<td>20N13E25</td>
<td>M</td>
<td>Ceramic (Pueblo III–IV)/Anasazi – artifact scatter (lithic procurement)</td>
<td>Undetermined</td>
<td>n/a</td>
<td>Avoid or test</td>
</tr>
<tr>
<td>J:13:56</td>
<td>N</td>
<td>20N13E25</td>
<td>M/S</td>
<td>Prehistoric/Native American – artifact scatter (lithic procurement)</td>
<td>Eligible D</td>
<td>n/a</td>
<td>Avoid or data recovery</td>
</tr>
<tr>
<td>J:13:57</td>
<td>N</td>
<td>20N14E31</td>
<td>M</td>
<td>Prehistoric/Native American – artifact scatter (lithic procurement) 1920s–1930s/Euroamerican – dumps (2)</td>
<td>Not eligible</td>
<td>n/a</td>
<td>None</td>
</tr>
<tr>
<td>J:13:58</td>
<td>N</td>
<td>20N14E31</td>
<td>M</td>
<td>Prehistoric/Native American – artifact scatter (lithic procurement)</td>
<td>Not eligible</td>
<td>n/a</td>
<td>None</td>
</tr>
<tr>
<td>J:13:59</td>
<td>N</td>
<td>20N14E31</td>
<td>M</td>
<td>Ceramic (Pueblo II)/Anasazi – artifact scatter (lithic procurement) ca. 1937/Euroamerican – artifact scatter</td>
<td>Not eligible</td>
<td>n/a</td>
<td>None</td>
</tr>
<tr>
<td>J:13:60</td>
<td>N</td>
<td>19N14E5,20N14E31,32</td>
<td>M/S</td>
<td>Prehistoric/Native American – artifact scatter (lithic procurement) Historic/Euroamerican – artifact scatter (rest area)</td>
<td>Undetermined; Historic component non-contributing</td>
<td>n/a</td>
<td>Avoid or test</td>
</tr>
<tr>
<td>J:13:61</td>
<td>N</td>
<td>20N13E24,25,20N14E30</td>
<td>M/S</td>
<td>Ceramic (Pueblo II)/Anasazi – artifact scatter</td>
<td>Undetermined</td>
<td>n/a</td>
<td>Avoid or test</td>
</tr>
<tr>
<td>J:13:62</td>
<td>N</td>
<td>20N13E24</td>
<td>S</td>
<td>Archaic/Archaic – artifact scatter (lithic procurement)</td>
<td>Undetermined</td>
<td>n/a</td>
<td>Avoid or test</td>
</tr>
<tr>
<td>J:13:63</td>
<td>N</td>
<td>20N13E28</td>
<td>S</td>
<td>Historic/Euroamerican – artifact scatter/rest area</td>
<td>Eligible D</td>
<td>n/a</td>
<td>Avoid or data recovery</td>
</tr>
</tbody>
</table>

**Note:** Site number is in the format AZ _____ (ASM); Land Status: M=Municipal (City of Flagstaff); S=State (Arizona State Land Department)
SUMMARY OF MANAGEMENT RECOMMENDATIONS

WestLand conducted a comprehensive inventory of 567.89 acres of Red Gap Ranch in Coconino County, Arizona. Specifically, WestLand examined proposed areas of impact from the development of Red Gap Ranch that include an onsite water treatment facility, a pumping facility, secondary pipelines from the wells to the treatment and pumping facilities, and onsite power distribution. Groundwater production wells and unpaved roads currently exist on the property, but will be maintained or upgraded as part of the project. The primary objective of the present study was to inventory the cultural resources in the survey area and to evaluate whether any of these resources retained qualities giving them an important place in Arizona and American history. WestLand conducted an archaeological records check, literature review, and 100 percent archaeological field survey. These efforts identified 38 sites and 161 isolated occurrences representing human use and occupation of the landscape from the Late Paleoindian Archaic era (circa 9000 B.C.) to the historical present (A.D. 1963). In terms of eligibility for inclusion in the ARHP and the NRHP, 1 site is listed in the NRHP, 1 site has been determined not eligible by the Arizona SHPO, 11 sites are recommended as eligible, 14 sites are recommended as not eligible, and 11 sites are of uncertain eligibility, requiring archaeological test excavations to evaluate their significance and/or integrity. WestLand recommends that none of the isolated artifacts, features, or scatters are eligible for inclusion in the ARHP or the NRHP. No other sites or districts listed in the ARHP or the NRHP are in the present survey area, nor does the present survey area fall within the viewscape of any NRHP-listed sites or districts. The Canyon Diablo Bridge, listed in the NRHP, is within Canyon Diablo and does not include Red Gap Ranch within its viewscape.

It can be anticipated that the project will involve mechanical vegetation clearing and right-of-way leveling, pipe trenching, right-of-way, and the construction of access roads as direct ground-disturbing impacts. However, a final construction right-of-way plan has not been completed or reviewed by WestLand, so direct impacts cannot be assessed at this time. WestLand recommends that the 1 site listed, the 1 site determined, and the 10 sites recommended as ARHP and NRHP eligible and the 11 sites for which insufficient data are currently available to make an eligibility recommendation be avoided by all ground-disturbing project activities. To avoid indirect or inadvertent impacts, the location of each site should be clearly indicated on all project construction plans and the boundaries of the sites should be marked on the ground for avoidance if ground-disturbing activities are to take place within 50 feet of the site boundaries. If the sites cannot be avoided by design, WestLand recommends that the affected sites be subjected to archaeological treatment under the guidance of a BOR- and SHPO-approved Historic Properties Treatment and/or Monitoring Plan. Treatment may not be required at sites such as the NRHP-listed Route 66 segment if the project impacts are limited to travel on the road with ground-disturbing maintenance or changes to the roadbed, culverts, or shoulders.

If the project construction design is unable, by engineering or procedure, to avoid the potential for impacts to cultural resources, WestLand recommends the development of treatment and/or monitoring plans to mitigate the potential for inadvertent direct or indirect impacts. Mitigation of these impacts may involve additional survey and site documentation, the establishment of temporary or long-term barricades, and/or construction monitoring.
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